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THE SIGHT-SAVING REVIEW

Volume XXX Number 1

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Table of Contents

PAGE

COMMUNITY PROJECTS FOR THE EARLY DETECTION OF GLAUCOMA
Panel Discussion 4

ROLE OF THE OCCUPATIONAL HEALTH NURSE
Katharine A. Lembright, R.N. 21

EYE CARE PROCEDURES IN THE HOME
Lois A. Federico, R.N. 26

FACTORS OF VISION IN THE SCHOOL ENVIRONMENT
Charles R. Barden, P.E. 29

WAUKEGAN FINDS ADVANTAGES IN THE ITINERANT TEACHER PLAN
Arline Morin 33

COORDINATING NEW YORK CITY'S RESOURCES FOR PARTIALLY SEEING CHILDREN
Mildred M. Keating 36

SUMMER COURSES 39

NSPB AT WORK 40

NOTES AND COMMENT 46

AROUND THE WORLD 50

CURRENT ARTICLES 52

BOOKS AND PAMPHLETS 60

ADVERTISEMENTS

AMERICAN OPTICAL COMPANY 1

EXCERPTA MEDICA 64

JENKEL-DAVIDSON OPTICAL COMPANY 2

SYRACUSE UNIVERSITY 45

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COMMUNITY PROJECTS FOR THE EARLY DETECTION OF GLAUCOMA

Digest of a panel discussion sponsored by the National Society for the Prevention of Blindness in conjunction with the Annual Meeting of the American Public Health Association, Atlantic City, N. J., October 22, 1959.

Moderator

WILFRED D. DAVID, M.D., chief, chronic disease program, U. S. Public Health Service, Washington, D. C.

Panel Members

MRS. MARCELLA C. GOLDBERG, director of welfare services, Pittsburgh Branch, Pennsylvania Association for the Blind

HELEN HART, M.D., health officer, City of Santa Barbara, California

LEON KAPLAN, M.D., chairman, professional advisory committee, Bridgeport Branch, Connecticut Chapter of NSPB

JOSEPH H. KINNAMAN, M.D., M.P.H., commissioner, Nassau County Department of Health, Long Island, N. Y.

HENRY PACKER, M.D., DR. P.H., professor, division of preventive medicine, University of Tennessee, Memphis

LEON J. TAUBENHAUS, M.D., M.P.H., director of public health, Brookline, Massachusetts

DR. DAVID: We are meeting this morning to discuss ways in which community projects for early detection of glaucoma can be sponsored, organized, operated and extended; also to consider some of the problem areas that are encountered.

Glaucoma is responsible for about 15 per cent of blindness in the United States, and thus is an outstanding public health problem. Over two per cent of all persons beyond age 40 have the disease, representing more than a million. Since it has been well established that early detection and prompt treatment can arrest progress in many cases of glaucoma the extreme disability of blindness can be prevented. Obviously, there should be more activity aimed at uncovering these early cases than now exists.

Now I am going to ask the members of the panel to describe briefly the programs or projects with which they have been associated.

DR. HART: In Santa Barbara the National Society for the Prevention of Blindness was interesting the ophthalmologists in glaucoma screening at the same time that I was showing the general practitioners a film, "Glaucoma—What the General Practitioner Should Know," and urging them to test for the disease in their own offices. Our program really turned out to be one sponsored by the ophthalmologists with the follow-up done by the Health Department. Mass screening on a one-day basis was done in 1956

for the first time, again in 1958, and next month we will have our third glaucoma day.

DR. KAPLAN: Essentially we have the same type of program in Connecticut. It was initiated by the National Society through securing the participation of ophthalmologists. It is growing by leaps and bounds. It has been done on a voluntary basis, the local ophthalmological groups deciding where to do the screening. Some projects have been located in hospitals; others in schools, and recently we had one at the Danbury Fair under sponsorship of the County Medical Society. These one-evening programs have worked out quite well, particularly from the educational standpoint.

DR. KINNAMAN: In Nassau County a very similar approach has been made. On occasion I have the opportunity as Commissioner of Health to speak to a group of physicians and their wives who happen to have an identification with a particular medical fraternity. I have indicated to them certain kinds of community services in which the professionals could engage. Out of one of these approaches came a response from the ophthalmologists who were in this group. They went to the Lions and got financial and other support. The single-day detection program was carried out in several local hospitals from nine in the morning until five in the afternoon. The hours were probably poor from the standpoint of the large commuter population. In future there will be other periods in which they can be screened.

DR. TAUBENHAUS: Our clinic in Brookline was conceived in a different way. It started accidentally at the Community Health Council one night when we invited the members of the various service clubs to tell us what they were doing with their money. We suggested to the Lions that maybe they would like to finance an organized glaucoma program administered by the Health Department and they thought it was a wonderful idea.

To give the project adequate status we organized an advisory committee, inviting the chiefs of the eye services of the three teaching hospitals either to be present themselves or to send representatives. We also invited representation from the State Department of Public Health and the State Division of the Blind. Then it took us about nine months to get approval of the Medical Society. When this was secured the technical advisory committee set up the standards. M.D.'s and optometrists are cooperating in the screening. Emphasis is on detection not only of glaucoma but on other eye conditions as well. Our primary concern, however, is glaucoma. The service is available to all citizens over age 40, and we try to do as good a job as possible in follow-up. For this reason all patients are seen by appointment. Clinics are scheduled for once a month. We see about 100 patients a clinic, of whom possibly five are glaucoma suspects. We can do a pretty good follow-up on that number each time.

MRS. GOLDBERG: I come from a private agency in Pittsburgh dedicated to the prevention of blindness and serving the blind in a county area. We function with a medical advisory committee. When we considered the possibility of doing county-wide glaucoma

screening we had a meeting of this committee augmented by the chief of eye services of the 24 hospitals in the county which have such services. Out of this meeting developed the idea of simultaneous screening three days consecutively in all these hospitals.

We estimated that we would see about 5,000 people in three days, based on experience with polio and tuberculosis screening in the community. The hours announced were 5:00 to 8:00 p.m. Actually we functioned from 5:00 to midnight on the first day and saw over 5,000 people; and in the three days we saw a total of 21,000. We were functioning from 3:00 in the afternoon until midnight. There were 85 ophthalmologists participating in the 24 hospitals.

DR. PACKER: Our program in Memphis differs in some respects from these you have heard described in that it is centered in a teaching hospital of a medical school and is operated jointly by the departments of preventive medicine and ophthalmology. The spark which started it in 1956 came from the senior resident in ophthalmology, Dr. Margaret Horsley, who was distressed by the advanced stages of glaucoma which she saw in the clinic. We have had a glaucoma clinic for many years, and she wondered why more effort was not made to find the disease in its early stages before so much loss of vision had occurred.

We asked the National Society for the Prevention of Blindness to assist us in a pilot study, and they were good enough to do so for a period of six months. After that we obtained financial aid for two years from the chronic disease program of the U. S. Public Health Service.

We have tested 13,155 persons of whom 2,516 were employment health card applicants; 4,742 in outpatient clinics; 562 at Shelby County Hospital; and 5,335 in non-hospital groups. Of the total number tested 1,027 were under and 4,308 were over 40 years of age. Among these groups 271 cases of unrecognized glaucoma were found—2.1 per cent.

Those in the first two categories mentioned were tested at the University Hospital. Our program there is unique in that a nurse does all the testing. She has received special training from the staff of the ophthalmology clinic and she of course works in the hospital under the direction of the clinic staff. The first evaluation of persons whose intra-ocular tension is found to be above a certain level is done in the ophthalmology clinic. In a special evaluation clinic a final decision is made as to a diagnosis.

During the past year we have moved out into the community and have tested other groups who have characteristics other than those found in our clinic patients; that is with respect to age, color, occupation, and so forth. We have tested school teachers, clerks and other office employees to find out which of these groups had the highest number of unrecognized glaucoma cases.

Before we launched into this program we obtained the cooperation and endorsement of our local Ophthalmology Society. We also worked very closely with our Health Department. The public health nurses do the follow-up visiting in the home, securing the return of patients for evaluation, and return of delinquent patients when they fail to come to the clinic for continuation of their treatment.

DR. DAVID: Now you have some idea of how these programs got started, that leadership and initiative came from different groups and different individuals. Some of you have touched on the obstacles encountered. Does anyone care to discuss these further?

DR. HART: When we were having our first G-Day the optometrists asked me to talk to their group, offering their services, wondering how they could help. When I offered the services of the optometrists to the ophthalmologists these were not accepted. When I suggested for our next clinic that the optometrists might do the vision screening instead of the public health nurses again I met opposition. This is not true in other places.

DR. TAUBENHAUS: The role of the optometrist in Massachusetts is clear. It is illegal for him to put drops in the eyes, or to do tonometry. The Public Health Service offered us Harrington screeners to evaluate for them and the optometrists handled this part of the screening program.

I think it is very important to remember that more people of the older age groups use optometrists than use ophthalmologists. If the tensions of these patients cannot be taken we will miss many cases of glaucoma. Before our clinic opened I wrote the various optometrists in Brookline and asked them if they wanted to volunteer their time. A few of them did and now that we have this cooperation established we are constantly getting referrals from optometrists for glaucoma screening.

If a patient comes from an optometrist and needs the services of an ophthalmologist we ask the optometrist to name the ophthalmologist to whom he wishes to refer the case. I think this policy has paid off in patients referred to the clinic by optometrists.

DR. KAPLAN: When the National Society asked us to work on the program in Bridgeport, the suggestion was made that we have an optometrist on the advisory committee, but the reaction was against it. Of course, Dr. Taubenhaus is running a program from the public health department and gets his referrals through different people. We run our program by publicity. We send out flyers, use radio, the press and so on. People come to a glaucoma screening regardless of who their eye doctor is because they hear or read about it, so the attitude of the optometrists has not made any difference. When this problem was brought up at the eye section of our State Medical Society the following statement was issued: "Since glaucoma is purely a medical problem, optometrists and non-medical personnel are not permitted to participate in any professional capacity."

DR. TAUBENHAUS: The main difference in our attitude is that we consider glaucoma a public health program, and they consider it a medical program. The way a program is developed depends on this basic philosophy.

MRS. GOLDBERG: I have here all the findings of our 21,000 people, processed through the IBM machine. Roughly 7,100 have had eye examinations previously by ophthalmologists; 6,300 by optometrists, and 7,600 have never had an eye examination. This was a county project but we actually stretched into a tri-state area. We had

people from West Virginia, Ohio and the northern part of Pennsylvania—a cross-section of rural and urban areas.

DR. HART: Since I do follow-up in the Health Department I should like to bring up the question of fees for the examination following the original screening. In our first project I personally talked to most of these people to find out if they had an eye doctor and who he was; or if they hadn't, could they afford one; or if they went to the county clinic; or could they afford to pay a reasonable fee if they were referred to an eye doctor. At the second clinic we didn't go into this. The first time we got all but 30 out of some 200 people for referral. The second time 30 out of 100 failed to follow up. I feel that this difference relates to the fee which they felt they couldn't afford to pay. Is the fee a deterrent?

MRS. GOLDBERG: We do follow-up through medical social service—the staff of our private agency. We decided early in our planning that neither the ophthalmologists at the screening centers nor our agencies would do any direct referral, but rather that we would include the family doctor in this program. A copy of findings was sent to him with the request that he make the referral to an ophthalmologist.

DR. HART: This costs the patient more money.

MRS. GOLDBERG: We were concerned about that. We quickly learned that the patients were calling their family doctors and asking for a referral, because the letter we sent them said: "Your findings have been sent to (doctor) whose name you gave. Will you consult him about further care." The family doctor was doing the referral by telephone. Only a few of the 1,200 patients paid the family doctor for the referral process. The ophthalmologists voluntarily agreed to see such patients immediately regardless of office schedules. In many instances, when the findings were negative, no charge was made. If detailed testing was involved there was a fee. Many of the family physicians called or wrote to us, saying: "This patient is indigent; can you make a clinic referral?" Of course we were glad to do so. There seemed to be no great problem as to lack of seeking care on the basis of finances.

DR. PACKER: Ours is a charity hospital. Some of the people applying for employment health cards who were tested were above scale, but we have permitted them to have three visits for evaluation to our eye clinic without charge. If they are subsequently found to have glaucoma they are then referred to a private ophthalmologist.

Community and industrial groups were referred to their ophthalmologists. A lot of people apparently didn't know the difference between an ophthalmologist and an optometrist. I don't know whether that is peculiar to our area or whether that misunderstanding is widespread. Often these people told us they were going to see someone in a department store, probably an optometrist; they didn't know that there was any other kind of eye specialist. Later on, in spite of the fact that we gave them a list of ophthalmologists practicing in the community, we found that some had gone to optometrists.

The cost of the follow-up examination was brought home to me about a month ago when I received an irate

letter from a person who had been tested in one of the industrial sessions. He apparently had had to go to the ophthalmologist a number of times until the final evaluation was made and the ophthalmologist decided that the patient did not have glaucoma. So the patient sent me the bill, saying I was to blame for this expense.

We had a similar experience in our diabetes detection program. A patient is rather indignant when nothing is found, and feels we are responsible for incurring the expense. This of course necessitates being careful about the referring level.

DR. TAUBENHAUS: The problem has one aspect which we haven't solved. It relates to the person whom we refer for a final diagnosis, and who is not considered to have glaucoma; yet he has a higher than average tension. He gets mad because he's spent all that money. He's a person who ought to be screened again, but I think we'll lose him.

DR. HART: I'd like to ask Dr. Kaplan how much the charge is for complete glaucoma examination, including the water test?

DR. KAPLAN: It's expensive. I have never figured it out in my own office, but an ophthalmologist in Fairfield charges fifty dollars for a screening—the entire procedure, including the water test.

DR. HART: Fifty dollars or fifteen?

DR. KAPLAN: Fifty. This is for private patients who come on their own asking for a test, not those referred from the glaucoma screening. A thorough examination takes quite a bit of time. For one patient to whom I gave one, and who was charged by the visit, the total was thirty-eight dollars. I feel that not every patient who is referred needs a complete examination. Some will need gonioscopy and tonography, some will not. That depends on the ophthalmologist's judgment.

The average fee in our area is between ten and fifteen dollars for the first visit. That should be adequate for most of the tests required unless there is a real problem. I do a water test routinely on each of the patients referred from the screening. With that and tonometry, a field test, and a fundus examination, we can usually determine whether or not these people have glaucoma.

As to follow-up of patients: In Connecticut no rural area is very far from an urban area. Therefore facilities and services are available for all who wish to use them. The state pays for medical care for those on welfare rolls. Hospitals, through outpatient departments, take care of others, and ophthalmologists have agreed to care for any indigent patients for whom there is no other means of paying. The Lions Clubs have also helped in certain cases.

When someone is found on screening to have an elevated tension he is sent to a table where there is a nurse-consultant who has been briefed. She explains the need for immediate eye examination. The patient is given a referral card on which the tension is recorded, this to be filled out by the doctor, indicating whether the patient has glaucoma. The card has the address of the NSPB Chapter office on the back and the doctor mails it in. If a referral card is not returned within two months a reminder is mailed to

the patient. If no answer is received a public health nurse does a personal follow-up to get the patient under care. We have not had adequate personnel in the chapter to do this follow-up, and to send out these letters. The local health departments have indicated their cooperation, but because of lack of personnel they too have not followed through as carefully as we would like.

DR. HART: May I suggest another source of help—the Delta Gammas, a national society which is active in prevention of blindness. It has been very helpful in our area, not only in manning the clinic where volunteers could be used, but also immediately afterwards in card sorting and statistical work. Possibly there are many Delta Gammas in official positions. The one who heads this up for us is in the Welfare Department. You might get some clerical help on follow-up through them.

DR. KAPLAN: Our greatest source of help has been the parent-teacher association.

DR. HART: How about the women's auxiliary to the medical society?

DR. KAPLAN: They have helped us in the recent screening at the Danbury Fair; they manned the booth throughout. The largest number of volunteers was from the auxiliary; they gave 90 hours of time during the eight days of the fair. The ophthalmologists gave 81 hours.

MRS. GOLDBERG: We tried to work this on a cooperative basis; the hospital administrators were responsible for finding volunteers from their own hospital auxiliaries to participate in the actual screening program, and they proved to be amply supplied with volunteer help. The first year we didn't anticipate the large turnout, and we didn't have a training program for volunteers—a sad mistake. This year we asked each hospital administrator to send two persons for training. These two, in turn, were responsible for training the rest of the volunteers who were enlisted. The hospitals really were staffed so efficiently with ophthalmologists and volunteer help that they were able to screen 100 persons an hour.

Follow-up has been done entirely through the service of our agency. We have not tried to use volunteer groups because that takes more intensive interpretation and knowledge of community resources than most volunteers can contribute.

DR. KAPLAN: In view of the fine experience we've had so far with the medical auxiliary I'm sure we'll ask for their help in future.

DR. DAVID: Trained volunteers?

DR. KAPLAN: We have plenty of trained volunteers to do vision screening, but clerical help is needed in follow-up; for example, on people who had not responded to the initial suggestion for an evaluation. Incidentally, by individual investigation we found that some of these cases had just been careless about giving the card to the doctor; they really had had an examination and were under treatment.

DR. HART: Each doctor brought his office assistant to put the drops in the eyes. However, they found they didn't have enough assistants to take care of the patients, so on the spot they trained some of the Delta Gammas to

put in the drops. It went along beautifully. Since the doctors supervised I'm sure it was acceptable.

DR. TAUBENHAUS: That would be illegal in Massachusetts.

DR. HART: Well, the doctor was right there.

DR. KAPLAN: Anything done directly under medical supervision is considered under the law in Connecticut to be satisfactory. Our nursing personnel have responded wonderfully. We've never had any difficulties. They assist the doctor at each table, and instill the drops. Some, especially public health nurses, have been briefed on how to explain the condition to people who have been told either that they did or did not have an increased pressure.

DR. PACKER: Our nurses, too, play a very important role. As I mentioned previously, all our testing was done by a single person in order to compare the various groups. That was a nurse who had received special training.

We have found the industrial nurse to be very helpful; in fact, most of the time she has been instrumental in arranging for the testing. Hearing about the program, she has called us to find out if her particular company could be scheduled. She has been given a list of those who were found to have elevated ocular tensions, and made responsible for seeing that they went to an ophthalmologist. The number who did was extremely high. We were very grateful for that type of cooperation.

DR. HART: We found the first year that most of our people were receiving welfare checks, because with each check that went out before our meeting there was a little notice about the glaucoma day. Most of the people felt they'd better go or they wouldn't get their next check.

DR. DAVID: Are there any questions from the audience?

VOICE: I would be interested in knowing whether other medical societies have become involved, as in the Pittsburgh area, in the educational process. I think that has helped the program there considerably, in terms of not charging fees, and so forth.

DR. DAVID: I assume that would have many aspects. What have the rest of you done as far as your professional advisory committees and community advisory groups are concerned?

DR. KAPLAN: Before we actually initiated any screening in our area we wrote to the county medical society and got approval. Our first pilot program was with the local Lions Club. We screened all their members at a luncheon meeting, and thus got some experience and learned some of the pitfalls.

Then we went to the retired persons club at the YMCA, and to the leisure lounge of the Jewish Community Center, another golden age group, and we got a lot of information and experience. However, we ran into objections from the ophthalmologists. They felt the screening should be connected with a hospital, and that going into clubs, fairs and so on was entirely unprofessional. Even though the county medical society had given its approval before we initiated these programs, this local group brought the question up at the state eye section meeting. As a result a program was worked out with the approval of the state medical

society. The ophthalmologists have not been willing to go along unless this program is carried out in accordance with the following statement:

"Glaucoma screening in each area should be initiated by the local branch of the National Society for the Prevention of Blindness. If any group wishes to participate in the screening, or wishes to initiate a program, they should contact the local branch of the NSPB. After it is decided to have a screening, there should be a general committee meeting with at least one ophthalmologist, one representative of the NSPB, one representative of any local group (in many communities this will be a Lion), a representative of the commissioner of health, and a representative of the visiting nurses' association.

"The publicity committee should consist of at least one representative of the NSPB, an ophthalmologist, and a representative of a local group, such as the Lions. It should stress in the publicity that this program is being presented by the eye physicians of the state medical society, sponsored by the NSPB and the local service group. Publicity releases should be checked by the ophthalmologist.

"The committee on arrangements should again consist of at least one representative of the NSPB, an ophthalmologist, and a representative of the service group. The committee will arrange for the site and that will be at the option of the local group. The NSPB arranges for the supplies; the ophthalmologist will also arrange with the other ophthalmologists in the area for their attendance at the screening.

"Since glaucoma is truly a medical problem, optometrists and non-medical personnel are not permitted to participate in a professional capacity."

VOICE: What is the definition of "a professional capacity"? In a number of these programs they are using volunteers for visual acuity tests and in some instances nurses are putting drops in the eyes. Optometrists are used in the Brookline program for the Harrington screener. Is that in a volunteer capacity, like the Delta Gammas?

DR. TAUBENHAUS: It's done under medical supervision.

DR. DAVID: Would that be accepted?

DR. KAPLAN: That would not be accepted in Connecticut. They did not want the optometrists taking part in any professional capacity: that meant visual screening—that was definitely discussed—and field tests; they could only take part in registration, acting as guides just as any other Lion would, and that was the only capacity in which they would be accepted by the medical group.

DR. DAVID: Does that answer your question?

VOICE: The National Society for the Prevention of Blindness engages in a total program of sight conservation. I think you should recognize that optometrists see about two-thirds of the people for their first refraction. This first line of defense against glaucoma should not be overlooked. As to referral, I understand that the American Optometric Association is presently engaged in a survey, and I think figures will show that about a million people are referred annually to the medical profession for service. Optom-

etrists do overlook some cases, I'll admit, but I think a great many medical people overlook them, too. There isn't 100 per cent assurance that a case will be recognized on the first visit.

It is wise for NSPB, at least in the advisory and planning stages, to encourage optometrists to participate; and I think in that way you will find a great deal of manpower and assistance. In the country there are over 6,000 Lions Clubs and I think about half of them have optometrists as members; also ophthalmologists. These clubs are very active and provide a lot of funds. I'm sure you can get some very fine assistance and effect good rapport with the optometrists.

DR. KINNAMAN: As to the question of fees for services in connection with a medical determination, I wonder if we aren't dealing with a false economy here. Follow-up by official or voluntary agencies costs money. Since the number of persons who are going to need follow-up is relatively small, would it not be more economical if there were arrangements made for payment of the fee, thus eliminating writing of letters and sending out public health nurses on personal visits, all of which costs money? If the individual is unable to pay the necessary fees then I believe any sponsoring agency which undertakes the screening must accept that responsibility. I believe this concept has not been expressed here.

DR. TAUBENHAUS: I think the screening clinic has a responsibility for follow-up, but this should be spread to whatever resources are available. There is a free or relatively free clinic to which the indigent patients can come.

DR. KINNAMAN: I'm not talking about indigents.

DR. TAUBENHAUS: I think this would ruin our program; we have got to work within our community.

DR. KINNAMAN: If you're really dedicated to the purpose of finding glaucoma, then I think you have the responsibility for making the means available for that final determination. If the individual goes to the ophthalmologist, for example, and in the judgment of the ophthalmologist it would be a hardship for him to pay for the examination, I think in principle the person is entitled to the final determination. The sponsoring agency that set up the screening operation should find the means to provide such service.

DR. TAUBENHAUS: I agree with that. At the time of screening you should know what resource can best be used.

MRS. GOLDBERG: I come from an area where clinic care is available for the medically indigent. They pay a minimal fee for examination and treatment. Payment for this care would be completely out of our area of responsibility or justification, I would think.

DR. HART: As a public health person I find it very difficult to talk to doctors about fees. I'm working very closely with the ophthalmologists in setting up clinics, yet when I come to the point of referring people for a reasonable fee I have no idea what each doctor is going to consider a reasonable one. The doctors are willing to take these cases, but to avoid having them do the social servicing it seems best for me to find out the financial status.

DR. DAVID: Didn't Dr. Kaplan indicate that in Connecticut the doctors agree to take care of such cases?

DR. KAPLAN: Yes, they have done so.

DR. DAVID: Aren't there other factors involved in why the screened person doesn't get to the physician for follow-up? Is there need for more education, motivation? How well has this program been sold, and does the person understand his responsibility for his own care?

DR. TAUBENHAUS: We took our public health nurse out of the clinic and put her in a separate room where she could talk quietly to the patients after they were tested, find out their habit patterns, their ability to pay fees, etc. If the nurse can do a good job at that time, half the referral problem is solved.

MRS. GOLDBERG: One of the basic principles is securing the full cooperation of the ophthalmologists before you start; then you don't have to worry about whether they will or will not charge fees, or will see the patient if he cannot pay. Each ophthalmologist has set up his own system. Our doctors all have sliding scales that they adjust in accordance with the patient's ability to pay. We should not attempt to determine the amount.

DR. TAUBENHAUS: I'm glad you underlined that point.

DR. KAPLAN: The educational value of these programs should not be underestimated. The publicity is very important; it brings this condition to the attention of the general public so that many people seek help themselves without having to go to detection clinics. We cannot possibly screen everyone over 40.

In our area, the heart association and the cancer society have refused to join the United Fund. Their major reason is that their own campaign each year brings these conditions to the attention of the general public.

DR. TAUBENHAUS: I agree with you. I think the educational impact of our program is far more valuable than our clinic statistics. The eye physicians themselves tell me that people come into their offices and ask: "Are you going to take my pressure?" Far more glaucoma testing is being done by the ophthalmologists as a result of our program. I think we have educated the profession as well as the public.

DR. KAPLAN: Ophthalmologists in our area have told me that they did not do routine tonometries before the screening was instituted, but now they are doing them.

DR. DAVID: Then, won't we agree that in many instances the primary objective may not be finding X number of cases, but rather the education of the patient, so that he will consult the ophthalmologist for diagnosis and treatment as necessary.

DR. HART: This is one of the prime reasons that our ophthalmologists are interested in having glaucoma days; not to get more patients because they're all very busy now, but to educate the public to the fact that there is such a disease and what to do about it. They drew up their own little pamphlet on glaucoma, paid for by our Santa Barbara Eye Foundation, to hand out to each person who was screened.

MRS. GOLDBERG: We're United Fund supported and we conducted our first campaign last year with an eye to publicity. We cashed in on free public service time for Sight-Saving Month in September, plus time allotted in connection with the United Fund drive. In one week the largest Westinghouse KDKA-TV outlet in the area gave us $45,000 worth of free publicity. Obviously this and constant repetition through radio and newspapers gave us our large turnout. This year Mr. Khrushchev forgot to ask us whether it was going to be convenient for him to come to Pittsburgh three days before our glaucoma clinic. We got practically no free public service time with the exception of sporadic spot announcements on radio and TV and the newspapers relegated us to the inside and back pages. As a result we got 6,000 people in two evenings as against 21,000 in three evenings the year before. The publicity really carried over from the previous year's screening.

VOICE: Many of the persons screened show great relief when they are told they do not have glaucoma. Apparently they have been suffering real anxiety. Can we somehow publicize the fact that only a small percentage are positives—thus encouraging others to come in?

MRS. GOLDBERG: I think it helps to use trailers the day after the screening, showing the number of positives and negatives.

DR. TAUBENHAUS: We do that too; we publish that information in the newspapers. As a last step, we use an attitude questionnaire to find out what brought the patient to the clinic and how he feels about it. Of the first 1,400 responses 622 came to see if their eyes were OK.

VOICE: In Miami our public health nurses see the patients that are screened. We hope to follow through in many conferences in the clinic and home situations, using both the health department and visiting nurses.

DR. DAVID: Several people have touched on the relative merits of the one or two or three-day screening program vs. the continuing one. I hope there are some proponents of both sides in the audience as well as on the panel, and that we can discuss this point.

DR. TAUBENHAUS: We have a continuing clinic because we feel we can't do a good follow-up job if we screen large numbers at a time and become overwhelmed. We don't want to add new staff for follow-up, and we believe we can do a better job by degrees.

DR. HART: I would prefer a continuing clinic but so far I haven't been able to persuade the ophthalmologists that this is the way to do it. Eventually, I hope they will see this as a continuing program. They feel we do a better educational job with a lot of publicity once a year than can be done with a continuing clinic.

DR. TAUBENHAUS: We get a lot of publicity.

DR. KAPLAN: I certainly am not averse to a continuing clinic. Possibly if the public health department had started the project in our area it would have been set up in a different manner. I still feel that we cannot possibly screen everybody over 40 and the educational value of this program is much

greater than the actual screening value, although that is not to be minimized. A continuing departmental program would be fine if the personnel were available, but even with one it would be nice to have at least one big program a year that could be publicized. A combination of the two might be best.

DR. TAUBENHAUS: Do you have any figures on the population you have screened in your Connecticut mass clinics?

DR. KAPLAN: We've had 3,000 to 4,000 people. The state population is between two-and-a-half and three million.

DR. TAUBENHAUS: We screened between eight and nine per cent of our eligible population. We've had 32 clinics in the last 18 months.

DR. KINNAMAN: In Nassau County, a community with almost 400,000 persons who are 40 years or over, we reached five per cent in a single day.

DR. KAPLAN: We did two screenings in Trumbull, a little town with a population of about 8,000, and we had over 900. This was a much more concentrated project. We could do it in a small town, whereas in a big city it's more difficult.

DR. PACKER: Since it's impossible to screen everybody over age 40 there is need for study of the distribution of glaucoma. Sometimes in this one-day community-wide program we may be reaching many groups with a rather low prevalence of the disease. By making studies of selected groups we might pick out those in which the percentage is greater. One year we announced that we would test teachers at the time of their summer meetings and there was a tremendous demand for this service. Even though we announced that we would test only people over 40, we had teachers in their 20's who insisted on being included. We found practically no unrecognized glaucoma in that group, and I think, in a community project at least, it's a waste of time testing that particular group.

People who use their eyes for discriminatory work, such as teachers and office workers, appear to be more likely to go to ophthalmologists for examinations. We found much more unrecognized glaucoma in manual workers. In more selective screening a continuous rather than a one-day program might have its advantages.

VOICE: Aren't we missing a good bet in not educating the doctors to do glaucoma testing in their ordinary physical examinations? Since thousands of examinations are being done in industry and in the Armed Services the doctors could readily be trained for glaucoma testing.

DR. HART: In Santa Cruz welfare recipients are given complete physical examinations and glaucoma testing is included. In our first screening the highest incidence was above age 60 and interestingly enough males had a higher rate than females—11.8 in the 60–64 group compared to 9.5. Females were higher only in one age group, 70–74.

DR. KAPLAN: In relation to training general practitioners I'd like to say that at Yale Medical School where I am on the faculty we try to teach every student how to do tonometry. A program was started on the state

level. One of our ophthalmologists organized a course for general practitioners. She happens to be well-to-do and can devote the necessary time to it. The course was well filled and the ophthalmologist gave instruction in tonometry plus quite a bit about glaucoma.

However, at the following state medical society eye section meeting, quite a bit of opposition was expressed to this. The ophthalmologists felt that this procedure was not in the realm of the general practitioner and that was the way it was left. The program has been dropped. I feel that the general practitioner should be taught to do tonometry and I have taught a few individuals, but of course the best way to do it is at medical school.

VOICE: I certainly agree that we should teach the medical students, but in addition to that the doctors who are doing general physical examinations should be encouraged and educated to do this testing. When ophthalmologists insist that only specialists can do tonometry it is like saying that for a general physical examination you should have a whole battery of specialists. That, of course, is ridiculous.

DR. KAPLAN: I think if we start at the teaching level, at the embryo stage of physicians, that we can instill the desire to learn this technique.

VOICE: In medical student education in Miami the project is basically a research one sponsored by the University Medical School. A resident is always there at the clinic and the students rotate through.

DR. KINNAMAN: Dr. Kaplan said that the ophthalmologists of Connecticut have emphasized that this is a medical problem. I believe that any medical problem is of concern and interest to all persons practicing medicine, not only to a single specialist group. Therefore, I find it difficult to accept the idea that the ophthalmologist should determine all of the principles, all of the procedures with relation either to detection or treatment. Have the ophthalmologists ever gone to the Academy of General Practice with a practical program for training physicians, for encouraging the general practitioner to apply the principles of glaucoma detection in everyday practice?

In Nassau County we have an excellent group of ophthalmologists yet it is quite clear that this group considered the detection program their particular project, not a community effort.

DR. DAVID: Can we say in general that it is a medical problem and one of public health importance?

DR. KINNAMAN: I am fully in accord with the concept that this is a public health problem, but willing to accept the basic concept that it is essentially a medical problem.

DR. DAVID: Does anybody disagree with that?

VOICE: Last year at Hartford General Hospital between 25 and 30 physicians were taught by the ophthalmologists how to do tonometry. They had three or four teaching sessions and about a dozen of them bought tonometers. Two or three of these men, certified by the Board of Internal Medicine, do a lot of thorough physical examinations for indus-

try and they are now including tonometry. The ophthalmologists seemed very happy when these men referred to them cases of suspected glaucoma. It may be that after a while we'll overcome the initial resistance of some of the men who are in the eye, ear, nose and throat section of the state medical society. Incidentally, only about half of them are certified by the American Board of Ophthalmology.

DR. HART: I think eventually there will be patient demand just as women now demand the Papanicolaou test on a general physical examination. The general practitioner who fails to do a complete examination is not going to get the patients.

DR. KAPLAN: Possibly one of the national groups, such as the American Academy of Ophthalmology and Otolaryngology or the Eye Section of the AMA, will take the leadership in the near future in standardizing tonometry training for all general practitioners.

VOICE: There is an important potential for this training in the house staff of all hospitals. I think the general observation is that pediatricians and internists don't take an interest in eye examinations at the moment.

DR. DAVID: Can we now discuss the criteria for referral for complete examination?

DR. KAPLAN: In Bridgeport after we formed a special advisory committee, we had a meeting of the ophthalmologists and worked out criteria. On the basis of what has been done nationally it was felt that 25 mm. Hg. was the upper limit of normal, 1955 scale. We use a 7½ gram weight for uniformity. Though abnormal scleral rigidity isn't as frequent as the literature may lead one to believe, if it happens to be low or high a tension may be false. You might take a tension with a 5½ gram weight and get one result and then use a 10-gram weight and get another. We took the 7½ gram weight so that that factor would be minimized, although it was still present. With that we felt that 5 or below is criteria for referral. In other words, 5 with this weight according to the 1955 scale is 25.8. National authorities, Dr. Friedenwald and Dr. Becker, have felt that this is higher than one should have. In Becker's recent work 23 is the upper limit, but we decided to stick to 25, and anybody with 25.8 has been referred.

One other reason for referral is a difference of more than 8 millimeters in the two eyes. Also, those who were found to have visual defects were told their vision was not up to par. We did not urge them to do anything about it; the decision was up to them.

DR. HART: Did you funduscope?

DR. KAPLAN: No, we felt that that usually disclosed a late condition and pressure would be high sooner than we would get cupping of a disc.

DR. HART: We didn't find that to be true. We found as many cases from pallor or cupping of the disc with normal tension as we did from high tension.

DR. KAPLAN: You will find that variation, just as you will find some people who screen normal tension and still have glaucoma. That is the danger of a screening process; some people deviate from the usual findings, and they may not be referred.

DR. TAUBENHAUS: We use a tension of 25 mm. Hg. or above as a standard for referral. We also refer all cases of cupping or a shallow anterior chamber. We started out using a differential tension of 4 mm. Hg. between the two eyes irrespective of the level of the tension as a standard for referral and then shifted to 6 mm. because we felt 4 was giving too many false findings. We also automatically refer anybody with lens changes. Referral of any other condition is determined at the discretion of the examining physician.

DR. PACKER: We use the criteria indicated except for a difference of 6 between the two eyes instead of 8. This is another point where medical evidence and advice could be used.

DR. TAUBENHAUS: Our examiners use the 5.5 gram weight and recheck when indicated with the 7.5 gram weight.

DR. KAPLAN: To vary the weight in large scale screening is impractical and that's why we use a 7.5 gram. We figure that covers a lot of these borderline cases.

DR. TAUBENHAUS: Are there any data on the time of day the clinic is scheduled?

DR. KAPLAN: Tension probably varies. We have no statistics on that. Various people in the past have done tensions diurnally or at various periods of the day and even in normal people the tensions have been found to vary from the early morning hours, when they are often highest, to lowest in the middle of the day, rising again in the evening.

DR. TAUBENHAUS: In a daytime clinic we might have used a different screening level. We set this up for an evening clinic.

VOICE: Could I ask Mrs. Goldberg or Dr. Taubenhaus how many eye diseases other than glaucoma were found in fundus examinations in relation to the number with glaucoma? Have you kept a check on that?

MRS. GOLDBERG: On follow-up of 1,199 cases last year we had 378 positive glaucomas, 33 suspicious. We had 30 cases of hypertensive retinopathy; 13 diabetic retinopathy; 4 macular degeneration; 9 uveitis; 3 conjunctivitis; 6 keratitis; one exophthalmus; 3 with psychiatric or neurological basis; 46 lens opacities; 3 optic atrophy; 168 refractive errors; and 280 normal eyes, out of 1,199.

DR. TAUBENHAUS: We had one melanoma and three or four other serious conditions. Of the 364 cases referred for other eye conditions 165 were confirmed; 15 unconfirmed; and on 184 other tentative diagnoses we haven't yet had reports.

DR. HART: We found 11 per cent aside from visual acuity.

DR. KAPLAN: I was in favor of doing fundus examinations but I was voted down. The men felt that since this project was only on the educational level we should limit ourselves to glaucoma screening. It was admitted that we would find many other conditions if we looked for them but limited time made this impractical. When we look at the eye and do tonometry we do see any gross pathological conditions of the cornea and any external diseases, and they are noted. We didn't do tonometry on a red eye because of possible infection.

DR. DAVID: You raise an important point: The content of the screening program depends on such factors as what the objectives are, what the local group wants to do, what the resources are, how much time can be spent for examination. Wouldn't you say this is another area where the decision must be made by the ones actually engaged in the project, planning jointly with the Medical Society?

DR. KAPLAN: I should like to emphasize that we were never rushed. The ophthalmologists were able to handle the case load; most of the bottlenecks were in vision testing. We had four cards going at the same time, and we never seemed to have enough patients coming through to keep the ophthalmologists really busy.

We have found that applanation tonometry does not lend itself to screening; it's a fairly slow process. I can do it in five to 10 minutes, but I don't see how you could do it on a large-scale group. Only a few of these tonometers are available now.

DR. DAVID: Panel members, is there any point that you want to reinforce?

MRS. GOLDBERG: Dr. Kaplan mentioned bottlenecks. In mass screening ample space for registration and for testing visual acuity is essential. For accuracy volunteer personnel should fill out the registration cards, obtaining the desired data, rather than handing cards to people to fill out themselves. We found that we needed to double the numbers of nurses who took visions in order to keep the flow of traffic moving. Six lanes of vision testing were needed to keep things moving for three doctors doing tonometry and three doing fundi.

DR. KINNAMAN: What has been done in these several communities actually can be done quite easily in others if people are of good faith. Perhaps we've been putting too much emphasis on the difficulties. If you have good professional people in the community, organizations that can give good support, this is a very easy thing to organize. I think it certainly ought to be done on a much wider scale than it appears to have been done so far.

DR. DAVID: I think that's a very cogent point on which to end our discussion, that whether we're talking about glaucoma or the prevention of disability from chronic disease in general the answer will come from community acceptance, from the community agencies working together, with mutual respect for each other's skills.

There are various approaches; each is valid for the particular community, the particular state. We are learning from our mistakes that a good deal of flexibility is possible in the planning. We have agreed here today that the most important first step is eliciting active cooperation and participation by the medical society, by the specialists and the general practitioners. The ultimate answer will come when voluntary and governmental agencies and private individuals get together and iron out the problems.

PHILANTHROPY IN 1959

According to an estimate by John Price Jones Company, Inc., Americans in 1959 gave $7.3 billion in philanthropic gifts, bequests, corporate gifts and foundation grants. This was $200 million greater than the estimate for 1958. Based on an official population estimate of 179 million for 1959, this represents a per capita gift of $40.83.

Role of the Occupational Health Nurse

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The responsibility of the occupational health team, of which the nurse is a member, goes far beyond the medical department.*

UNDER ideal conditions the occupational health nurse works within an industry as a member of a team which includes the physician, safety engineer, personnel director, hygienist and other specially trained persons. Such a team, with a common objective, is often able to accomplish such positive control over the work environment that many employees are undoubtedly safer at work than they are off the job.

Each in-plant health program should be designed to fit the particular situation, since industries vary widely in the amount and type of medical service they require. Furthermore the program must be coordinated with the plant operating departments to eliminate unwarranted expense. It is necessary for the physician and nurse to understand the relation of their work to other procedures and to adjust time schedules in the medical department to the convenience of employees, thus reducing time lost from work.

A health program in a plant is practical economically. It can decrease the compensation insurance premium, the accidents, the number of absences and the labor turnover. It can increase quantity and quality of production. Beside financial savings it will improve the health of employees, and increase regard for the company in the minds of the men, their families, and the community. Such a program is carried out more successfully when there is a nurse in the plant.

The nurse works independently as a professional person and cooperatively as a member of an occupational health unit. She is responsible for the practical application of the principles and the achievement of the goals of industrial medicine. In a great many cases she is the only representative of the profession within the plant. The physician has the responsibility for the over-all direction of the health program. The nurse serves as his assistant when he is in the plant and as his representative when he is away. She occupies a very strategic position, since she has a closer personal relationship to the employees than many of her coworkers on the health team. To most of the employees she is often the only visible evidence of in-plant health and medical service. She plays a role in furthering good human relations.

Legal and ethical considerations require that a physician be given the responsibility for the direction of health

* Digest of a paper presented at the Annual Conference of the National Society for the Prevention of Blindness; New York, February 25, 1959.

services for employees. When employment of a full-time medical director is not feasible management should adopt a physician-in-charge arrangement on a part-time, on call, per diem or consultative basis. The nurse should be provided with a set of standard procedures for her guidance during the physician's absence which have been discussed and agreed upon in consultation with her. These should be in writing and signed by the physician.

The nurse should report directly to the full-time physician or medical director. When a part-time arrangement for medical supervision has been established she should report to the physician in all professional matters, and to a member of management in administrative matters. Under part-time medical supervision provision should also be made for her to discuss certain nursing problems with management so that they may be resolved promptly and effectively. Management should be conversant with the scope and limitations involved in the practice of nursing, and should neither expect nor request the nurse to exceed her normal sphere of service. She must understand clearly what her authority is, to whom she reports and to a large extent exactly what her relationships are to other members of the organization.

Even where there is a full-time physician the nurse has many functions, the most important being the administration and operation of the health service department. She participates in the formulation and implementation of its administrative policies and makes recommendations regarding nursing activities, including adequate service for employees on all shifts. She provides relief nurses during sickness and vacation periods, represents nursing at management conferences as needed, and attends meetings of the safety and personnel departments.

Accident Prevention

The part the nurse plays in the safety program varies according to plants. Safety engineering is a specialty and is outside her province. However, she can make a large contribution to accident prevention among the workers on the job and in their homes whether she works alone and assumes responsibility for safety or cooperates closely with the safety director. Difficult situations sometimes arise where the supervision of the nurse is placed under the safety director. Nursing and safety are mutually supportive and function best as interrelated units reporting to a common supervisor in management.

The protection of workers against accidents calls for teamwork. Where a safety department is already functioning its director is the logical person to introduce the nurse to plant processes; to point out hazards and interpret precautions taken to overcome them; and to explain the type of safety education being carried on. He may wish to turn over to the nurse certain responsibilities such as sterilization and distribution of goggles and respirators and other protective equipment. This is not a nursing procedure but the nurse frequently assumes responsibility for it because no one else does. It gives her an opportunity to re-emphasize why eye protection is necessary, and to straighten out complaints about discomfort or improper fitting.

The safety director explains about accident reports, why specific forms are used, and what particular purpose

they serve. He shows the nurse the statistics compiled from these reports that have been of value to the company in eliminating accidents.

By attending meetings of the safety committee, sometimes acting as its secretary, the nurse gains a knowledge of its particular problems. Frequently she is able to throw light on underlying causes of accidents that routine investigation may not have uncovered. If she shows where spoilage can be reduced through improved employee vision and better lighting, and reports on specific accidents that could have been avoided through use of eye protective equipment, she has a good chance of increasing the interest and support of management in a good vision program.

Adequate eye safety and vision-testing procedures are a sound investment. The nurse should have no qualms about approaching management for necessary funds to initiate and maintain such a program.

Protective Equipment

Frequently the nurse finds herself in a position to advise about the use of safety glasses. It is not unreasonable that employees sometimes refuse to wear such equipment because it is out of adjustment or needs repair. The nurse should be alert to the employee's attitude in this respect, and try to have the situation corrected. The AMA Committee on Industrial Ophthalmology says that eye disease is not caused by protective equipment. Substandard or improperly fitted lenses may cause annoyance and discomfort but not disease. Properly fitted safety eyewear, meeting the specifications of the National Bureau of Standards, will eliminate such problems. A correction suitable for specific job requirements and performance is sometimes not the same as would be provided for general use.

The nurse can promote the use of posters and bulletins stressing the need for eye protection, the importance of going directly to the health service in the event of eye injury, and the advisability of periodic eye examinations.

She must be able to explain to management the difference between testing and examining eyes; to explain the difference between the services of an ophthalmologist, an optometrist and an optician. If there is no plant physician she should, upon request, be able to direct management to the county medical society or the local accredited hospital so that consultation services and emergency eye care arrangements can be made with competent ophthalmologists.

In making an eye health appraisal to submit to management the assistance of the National Society for the Prevention of Blindness, the loss prevention department of the company's insurance carrier, the local or state health department, the Council on Industrial Health of the AMA, or a private industrial health consultant firm may be sought. Lighting, color contrast, work methods and work stations should be thoroughly studied as well as the more obvious hazards created by poor housekeeping, dangerous tools and processes. NSPB publishes an industrial vision program appraisal form which can be very helpful.

Care of Eye Injuries

Experience indicates that the most common eye injuries in industry are caused by flying particles. Workers

and foremen should be instructed never to remove a foreign body at the scene of the accident, but to report promptly to the health service.

Extreme caution in giving eye care is necessary, since many injuries and infections that appear to be minor may prove serious and costly if improperly managed. A detailed history and the recording of all pertinent findings are most important. The time, place and cause of the injury should be indicated.

Written procedures should include:

1. Type, strength and uses of all drugs and solutions used in the care of eyes
2. Specific procedures in:
   a. removal of loose foreign body on conjunctiva or cornea and follow-up
   b. dealing with penetrating or imbedded foreign bodies
   c. chemical, thermal or flash burns (much emphasis should be placed on the water irrigation treatment)
   d. inflammation and infection

When possible a small room in which illumination can be controlled should be set aside for eye care. If this is not available an isolated corner may be utilized.

The nurse will insist on following her physician's directions at all times. She will always be sure that the equipment used is surgically sterile and kept separate from that used for treating other injuries. A separate tray should hold the necessary articles in sterile, covered containers—medicine droppers, solutions, cotton swabs, eye shields and instruments. Ophthalmologists urge that a specialist's attention be given *at once* to serious eye cases. Delay is dangerous.

Nurses should not be permitted to use ointments in emergency eye care. An ointment-filled eye often causes a delayed diagnosis and treatment.

It has long been preached, but seldom practiced, that one should never use the dropper out of a stock bottle on an eye tray to put medication into an eye. The practice is being violated because some nurses insist that they can drop medicine into an eye without touching any part of it. This claim is simply not true, as no one can avoid occasionally touching the conjunctiva, lashes or globe. When this happens, and the dropper is reinserted in the stock bottle, contamination results.

The keynote of nursing care of eyes is insistence on the utmost simplicity. There should be (1) few items on the eye tray; (2) quiet, diplomatic handling of the case; (3) rigid preventive measures to avoid infection or further damage; and (4) constant attentiveness to the ever-changing picture of industrial eye care.

The nurse's attitude toward the employee with an eye injury is very important. She must be extremely patient and understanding and not be annoyed if the employee has difficulty opening his lids. An eye injury is a frightening experience and constant reassurance and understanding are necessary. Patients who know the truth usually can accept their course of treatment, whether it involves hours, days, or sometimes, as in severe burns, weeks. Seldom is a conscientious nurse confronted with willful opposition after the situation has been explained and the employee understands his role in his own recovery.

The only completely effective way to eliminate visual damage is through

universal coverage, calling for everyone in working areas of the plant to wear some form of eye protection throughout the entire day. The 18,000 Wise Owl Club members offer proof of its value.

Vision Tests

The nurse should know the various ways of testing the visual skills of employees. It does not matter too much what procedure is used as long as it is accurate and gives adequate information. This should be determined in relation to the problems and needs of the specific industry. The visual skills, of which a record is valuable for placement and for the medical personnel, are as follows: acuity for distance and near, with and without glasses; depth perception; muscle balance for distance and near; color perception.

Vision testing equipment should be available for preplacement and periodic vision tests and for determining distance and near acuity when an employee sustains an eye injury.

Valuable information can be added to an employee's medical record from testing his eyesight. Such data serves to protect both the employer and the employee, particularly in compensation proceedings where the quality of vision before and after an accident is an important factor.

Every employee should have his eyesight re-evaluated every two or three years; periodic testing will keep medical records abreast of visual changes brought on by the aging process. Eye examinations often alert the physician to health impairments such as diabetes, high blood pressure and brain tumor. The relationship of eyesight to general health is not sufficiently appreciated.

DENTIST'S RESEARCH AIDS EYE DIAGNOSIS

As the result of research in his own field a Brooklyn dentist has discovered a means to aid ophthalmic diagnosis with infrared light.

Dr. Joel Friedman, chief of prosthodontics at Jewish Chronic Disease Hospital, presented his findings at the 12th Annual Conference on Electrical Techniques in Medicine and Biology. As reported in *Scope*, he found that a Navy infrared receiver utilizing type-6032 image-converter tube facilitated direct visualization of subcorneal structures in patients with opacities of the cornea. Dr. Friedman has been working with Dr. A. B. Rizzuti, physician-in-charge of the Brooklyn Eye and Ear Hospital Corneal Clinic.

The tube, used in conjunction with ophthalmic diagnostic instruments, is said to permit more definite preoperative appraisal of the likelihood of success in corneal transplants. In addition, studies of iris and pupil under dense opacities, observations on pupillary reactions in darkness, and differentiation between solid and cystic retinal detachment may be made.

AAOO HOME STUDY COURSES

The 1960–1961 Home Study Courses in the basic sciences related to ophthalmology and otolaryngology, which are offered as a part of the educational program of the American Academy of Ophthalmology and Otolaryngology, will begin on September 1 and continue for a period of ten months. Detailed information and application forms can be secured from Dr. William L. Benedict, the executive secretary-treasurer of the Academy, 15 Second Street S.W., Rochester, Minnesota. Registrations should be completed before August 15.

Eye Care Procedures in the Home

with special attention to the role of the public health nurse

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Complicated procedures for eye treatment have no place in the home and should be left to the specialized skill of doctor and nurse.

MANY eye care problems can be averted by proper public education in fundamental eye care procedures. To the public health nurse serving as liaison between ophthalmologist and public falls the major part of this responsibility. She supervises procedures in the home, instructs in first aid and on occasion advises emergency treatment before sending the patient to the ophthalmologist.

Use of Drops

Eye drops constitute the most common form of eye treatment rendered in the home. They must be employed only on the advice of a physician. The primary categories of these drops are: miotics, constrictors of the pupil, used in glaucoma; mydriatics, dilators of the pupil, used in preparation for general examination and to effect cycloplegia in refraction, iridocyclitis, and accommodative strabismus; antibiotics, to combat infection directly; corticosteroids, to suppress inflammation.

These drops are usually dispensed in a small plastic bottle with a top that protects the open dropper end. If the patient is to administer the drops himself he is instructed to stand in front of a mirror and with the left hand gently draw down the lower lid, forming a cup, into which he drops the medication. It should be emphasized that it is important to replace the protective covering of the bottle, in order to prevent contamination.

The importance of clear, proper labeling of medications should be stressed as well as the periodic checking of expiration dates. It is suggested that all eye medications be kept separate from other medications as an extra precautionary device.

The blurred vision or burning sensation accompanying the use of drugs such as atropine or homatropine may be distressing to the patient unless he has had proper instructions including information on the expected duration of effect.

Ointments are frequently employed for eye therapy in the home. Antibiotics, corticosteroids and mydriatics are used in treatment of conditions of the lids and conjunctiva, and frequently to reduce the danger of secondary infection after removal of a corneal foreign body before patching. Ointments intended for home use are available in tubes. The patient is directed to draw down the lower lid and, starting at the inner canthus, press out a small portion of the ointment

along the exposed conjunctiva proceeding laterally. After closing his lids he moves his eye in various directions in order to distribute the ointment. The same precautions in storing ointments should be exercised as in storing eye drops.

Irrigation Technique

Eye irrigation may be done in the home by the public health nurse to flush the conjunctival sac and remove secretions. This is not a common procedure and the patient is not to perform such a treatment on himself. The patient is positioned with the head back and tilted to the side of the eye to be irrigated. The lukewarm solution is gently introduced from a soft rubber bulb syringe across the conjunctival surface from the inner to the outer canthus. The escaping fluid may be caught with a roll of cellucotton or a curved basin held against the cheek.

The use of an eye cup should be discouraged because of the danger of spreading infection from one eye to the other and from person to person, particularly since the patient frequently fails to appreciate the necessity of sterilizing the eye cup after each irrigation.

Chemical Injuries

Immediate irrigation is of extreme importance in any chemical trauma to the eye. Many people think that only special sterile solutions or neutralizing agents should be used. The public health nurse in her role of health educator has the opportunity to correct this misconception. Copious irrigation with tap water should be instituted immediately and continued for a *minimum* of five minutes by the clock. This should be carried out by whatever method is readily available—a stream of water from a faucet; or the use of a bottle or cup to transfer water from some other supply such as a bucket or a natural source. The head can be immersed in water if no other method is possible. Immediate referral to an ophthalmologist is mandatory.

Hot moist compresses are prescribed in certain diseases of the cornea, iris, ciliary body, sclera and orbit. Their therapeutic value lies in their ability to increase the amount of blood flow to the affected area. This method also aids in localizing infection and diminishing the pain in hordeola, incipient chalazia, lacrimal abscesses and panophthalmitis. A gauze compress or wash cloth wrung out of water as hot as it can be borne is placed upon closed lids, and usually ordered every minute for at least 15 minutes every four hours throughout the day. An emollient such as cold cream may be applied to the lids prior to heat therapy to prevent skin irritation. In infected cases separate cloths should be used for each eye, and, if not discarded, sterilized by boiling between treatments.

Cold compresses are used in conjunctival inflammations. A gauze compress or wash cloth is moistened, cooled with ice, and placed upon closed lids. The applicator should be replaced as it warms. Ice should never be applied directly to the lids.

Foreign Bodies

Conjunctival and corneal foreign bodies require prompt removal. The public health nurse may be permitted to remove conjunctival foreign bodies with a moistened cotton applicator. The referral of these patients to a doctor may be determined by the nurse

herself or by policies set up by the public health organization.

Corneal foreign bodies should always be removed by an ophthalmologist. The importance of not rubbing the eye should be stressed, as this only increases corneal damage. Children in particular should be watched closely until the foreign body has been removed. Adequate follow-up treatment in cases of corneal foreign body is extremely important as infection and corneal ulcers may develop. The affected eye is generally patched until any lesion heals. The resulting monocular vision may be distressing to the patient. Reassurance that the patching is only a temporary measure should be given.

Use of Prosthesis

The use of an artificial eye requires considerable instruction because of the physical and psychological adjustment involved. Regarding the latter difficulty the nurse can be invaluable. Most patients begin to use a temporary prosthesis as soon as the socket is healed, which would be approximately one to two weeks post surgery. The fitting of a permanent artificial eye is usually delayed at least six weeks. The plastic eye is considered superior to the glass eye because of its durability. It eliminates the problems of breakage and discoloration; and is now the most commonly used ocular prosthesis.

Practice is the only method of gaining facility in inserting and removing an artificial eye. To begin with a mirror may be helpful in positioning. The eye is slid under the upper lid; the lower lid is pulled down and the eye eased in to rest on the lower lid. To remove the eye the lower lid is retracted and the eye lifted gently away so that it will slide down and out. In wiping an artificial eye the patient is instructed to wipe toward the nose. This will prevent the eye from turning in the socket and assuming an incorrect position. Caution should also be used in rubbing the lower lid since this is the main support and vigorous action could result in dislodgement.

Most manufacturers of artificial eyes recommend mild soap and water for cleaning purposes. The need for cleansing varies with the individual in relation to the amount of socket secretion. Some clean the artificial eye daily while others find weekly cleanings to be sufficient. If the eye is removed at night a secure storage site is required.

In all home eye care procedures simplicity of action is paramount. Instructions should be clear and concise. Complicated procedures have no place there and should be left to the doctor and nurse with specialized skills.

AID GLAUCOMA STUDY

A cooperative five-year study of techniques currently in use for detection of glaucoma was launched last November at four research centers with the financial support of the U.S. Public Health Service's National Institutes of Health. Grants totaling $115,000 a year have been awarded by the National Institutes of Neurological Diseases and Blindness to Wilmer Institute, Baltimore; Moffitt Eye Hospital, San Francisco; Washington University School of Medicine, St. Louis, and the department of ophthalmology, State University of Iowa at Iowa City.

Since glaucoma seems to be a disease of families, a large proportion of individuals studied will be the children of glaucoma patients.

FACTORS OF VISION IN THE SCHOOL ENVIRONMENT

CHARLES R. BARDEN, P.E.

Former Chief Engineer, Institutional Sanitation Section, Division of Sanitary Engineering
Texas State Department of Health, Austin*

Misuse of equipment and poor seating arrangement sometimes defeat the purpose of the most modern lighting installations designed for visual comfort and efficiency.†

THE Institutional Sanitation Section of the Texas State Department of Health, Division of Sanitary Engineering, has certain responsibilities not only in the school environment but also in hospitals, state institutions, parks and camps, and similar types of public and private institutions.

In working with school administrators, school architects and engineers we are required to conduct environmental surveys upon request of the local school administration, and to review plans and specifications for new school building projects which are assisted financially by the Federal Housing and Home Finance Agency. We also serve as consultants, on a voluntary basis, in new school building projects financed entirely by local funds. These duties are extremely challenging, and they afford an opportunity to see a variety of situations which may or may not incorporate sound public health engineering features in school building design. Incidentally, in every instance where changes or corrections were indicated as a result of our review of plans and specifications the architect or engineer in charge of the school building project has cooperated to the fullest extent in meeting the recommendations.

Emphasis on Lighting

The environmental factors of vision and the very closely allied subject of lighting take a prominent place in almost every discussion of school buildings. In the last few years this emphasis has become so great that some architects and educators feel that other aspects of school design are being overlooked in the enthusiastic attention to better lighting. From our experience, however, it is very difficult to believe that the environmental factors affecting vision are being overemphasized when it is evident that present-day school activities are demanding visual acuity more than ever before. New developments are emerging as to the quality, quantity and distribution of light in the classroom, and other factors are taking on new meaning and significance.

* Mr. Barden is now director of the Division of Occupational Health, Texas State Department of Health.

† Presented at the workshop in "Eye Problems of School Children" sponsored by the Texas Ophthalmological Association and the National Society for the Prevention of Blindness, assisted by the Texas State Department of Health; Austin, March 11–13, 1959.

The aim of good school lighting should be to produce conditions under which the visual tasks of the school day can be done effectively, and with the least output of energy. Direct glare, reflected glare, deep shadows, flatness of field, and sharp brightness contrasts should be controlled so that comfortable and effective learning performance may be promoted. An environment in which seeing should be relatively effortless, so that visual learning can be at an optimum, should be the goal in providing a satisfactory classroom environment. To attain all this it is imperative that a uniform distribution of light on all task planes be provided, and that objectionable reflections throughout the room be controlled.

Brightness Ratios

From the standpoint of effectiveness and comfort of the visual environment, and in certain critical seeing areas, the brightness distribution in the field of vision is just as important as the illumination level. The brightness of the surrounding areas in the classroom has a definite influence on the ease of seeing. Generally speaking, brightness variations within the field of a task exceeding the ratio of 3 to 1 interfere with successful learning. In other words, the brightest surface in the visual field should not be more than 3 times as bright as the desk surface, and the desk surface should not be more than 3 times as bright as the darkest visible surface or area in the classroom. The visual environment cannot be appraised in a cursory inspection of the classroom unless, of course, some specific factors detrimental to seeing are present. Examples of poor environmental conditions are: luminaires with insufficiently shielded lamps; low levels of illumination; dark, glossy walls or ceilings, and dark, shiny work surfaces. An ideal light distribution pattern satisfying most of the pupil's needs is one that provides a comparatively even distribution of light in all dimensions of the room.

It is accepted by most authorities that to obtain acceptable brightness ratios ceilings must have at least an 80 to 85 per cent reflection factor; side walls at least 60 per cent; wainscot, baseboard and trim 40 to 60 per cent; floor 30 to 40 per cent; desks and table tops 35 to 50 per cent; and chalk board 20 to 25 per cent. There is a wealth of information available in textbooks and material published by reputable paint and equipment manufacturers which should be of real value to school planners in meeting these reflection factor requirements.

Ceiling Design

As to the type of ceilings now employed in some school design projects: We strongly recommend that properly directed light from the window wall be distributed to all parts of the classroom by means of the conventional horizontal ceiling or by means of a ceiling sloping upward and toward the inside classroom wall. Ceilings which slope upward and toward the window area cause natural light to bounce back or reflect back to the windows and possibly through them. Properly designed fenestration may sometimes eliminate the need for a row of luminaires next to the window wall. This economy measure can be followed only when there is adequate daylight present. The use of classrooms at night will also influence the amount of artificial illumination required.

While the use of a building overhang has a place in modern school design, too often this device is a detriment to even light distribution in the classroom. It is highly desirable to utilize daylight as much as possible; and many times an overhanging roof seriously interferes with and prevents light from entering the windows. The same is true of shrubs and trees which are allowed to grow untrimmed in front of them.

Glare Problems

There is a trend among some school designers to provide bilateral or multilateral lighting in an effort to furnish a more even distribution of natural light in the classroom. However, in breaking away from unilateral lighting some designers have violated sound principles of balanced brightness by locating unshielded windows and glass panels on two or more sides of the classroom. Since the modern school program calls for movable furniture and partitions and a variety of activities, the location of permanent, natural light sources should be carefully considered if brightness ratios are to be maintained and if direct glares are to be prevented. The use of skylights and of clerestories present problems of controlling glare and heat, and also those of proper maintenance. It is possible to overcome these if suitable materials are used in the openings, with adequate light baffles.

Classroom walls are generally utilized these days as important educational tools and thus require closer attention in planning and designing than ever before. The standard vertical working plane in today's classroom is the chalk board, but we see more and more the use of other planes or surfaces such as the tilting desk top, easel, tilting chalk boards, tack boards and peg boards. The use of such functional equipment is in the hands of the teacher and it is largely her responsibility to utilize these innovations in the most satisfactory manner.

Classroom lighting should provide a distribution pattern that permits the child to orient to almost any position in the room and find the quantity and quality of light appropriate for full and free performance.

Team Work Needed

We do not propose to be experts in the field of classroom lighting and design, but we feel that we can recognize some of the obvious mistakes, that we can make certain basic recommendations which will tend to provide a more satisfactory visual environment for our school children. There is no set formula, however, which can be used for every classroom situation. We feel that environmental factors affecting vision can and should be controlled by the designing architect and school administrator. The teacher is a key person in all these plans. Skilled teachers in the past have shown ingenuity and resourcefulness in overcoming some of the handicaps of bad lighting. Others by misuse of equipment and by permitting poor seating arrangements now defeat the purpose of the most modern installations for visual comfort and efficiency. No part of the lighting installation is more important than the setting up of a plan for continuous counseling with teachers, to make sure that they understand and use the equipment properly.

Encouragement should be given to the illuminating engineer, the archi-

tect, the school administrator, the ophthalmologist and the school nurse to work together in developing satisfactory classroom environments designed to conserve and promote effective vision. We cannot expect to progress in this field unless we understand the total problem and unless we conscientiously attempt to resolve our differences. If we keep in sight the common goal and realize that the results of our efforts will be reflected in healthier, better adjusted children, progress can and will be made.

CHALKBOARDS
Black or Green?

In the November *Better Light Better Sight News*, Henry L. Logan, lighting expert, states that no improvement is possible over blackboard and white chalk, either theoretically or practically. He unequivocally favors the old-fashioned type, maintaining that any other combination of surfaces and colors offers less contrast and consequently requires more light.

Mr. Logan writes that the argument for light-surfaced chalkboards derives from the misconception that the chalkboard area, being a large part of the visual field, absorbs a lot of light if it is black. Actually the board at a maximum can occupy only two per cent of the visual field to a student at back center of the classroom. For a pupil at the front the maximum change would be eight per cent. The high contrast between the white chalk and the black or dark gray background makes visibility better from all room positions.

Illumination specialists in favor of green chalkboards contend that green boards and yellow chalk require "least accommodative effort" from the eyes and they produce a more pleasing color scheme.

Certain important factors tend to confuse the discussion, the *Better Light Better Sight News* editor points out. Blackboards are usually of slate, tried and true over generations. Green chalkboards may be of a variety of materials, most of which are untested by time. Although it has been proved that the brightness contrast between the slate board and white chalk is greater than that between a green board and white chalk, it has also been shown that the eyes function most comfortably and efficiently when brightness ratios within the entire field of view are not excessive. Consequently, other factors as well as color must serve as guides—cost, durability, ease of cleaning and maintenance.

The choice that must be made between visibility and visual comfort is not actually too extreme. Like many another controversy, there is no single, absolute answer. The *News* welcomes comments that would shed additional light on the subject.

NEW SCHOOL POSTER

A new poster for elementary school use is available from the National Society for the Prevention of Blindness. Captioned "One out of every four school children needs eye care," it features outline drawings of four youngsters in black and white. These may be colored or painted by the pupils in the classroom.

Attached to the poster is a bookmark which can be cut off and colored. This carries the advice of the NSPB Wise Owl: "If your eyes hurt, or if you have trouble seeing things clearly, tell your mother or your teacher."

The cost of the poster (E-9) is $4.50 per hundred; single copy 5 cents. Address 1790 Broadway, New York 19.

Waukegan Finds Advantages in the Itinerant Teacher Plan

ARLINE MORIN

Itinerant Teacher for the Partially Seeing
Waukegan, Illinois

Visually handicapped children, placed in regular classrooms, progress well with the extra help of the special teacher who visits them periodically.

FOR many years Waukegan City Grade School District 61 had the special class plan for partially seeing pupils of the city and Lake County. Four years ago the itinerant teacher plan was put into effect. Under this children with serious visual problems are assigned to regular classrooms with normally seeing pupils and are served by the special teacher who visits the schools periodically. The teacher is employed by Waukegan School District 61. All other districts sign contracts for services rendered. At the end of the school year the expenses for each district are prorated according to number of children served and the supplies that have been furnished. In the Waukegan area this charge is small in comparison to the amount the district would have to pay if its pupils were transported to a central school having a special program.

Placement Procedure

When a child with an apparently serious vision problem is located in a school the special teacher is notified. She contacts the school and talks to the superintendent, principal, teacher and school nurse. She also sends a medical form, supplied by the State Department of Public Instruction, to the parents, requesting them to have their child examined by an eye physician. Many times she makes a home call to explain about the eye condition and to request the examination. The physician's report is returned to her, and she in turn sends the findings to the school. Thereafter a report of the child's eye condition is required at the beginning of each school year.

When a child's eligibility has been established he is assigned to the program for the partially seeing, with an explanation and interpretation of his eye condition and special needs. The special teacher obtains large-type books or reproduces texts not available in the needed print size for children who require them. She also maintains a library of supplementary books in large print. It is necessary for her to have advance information about class assignments so that the material will be ready for the pupil when needed.

Service Based on Need

Arrangements as to the time the special teacher works in a school must be flexible, in order to meet the special needs of each child. Some pupils re-

quire much more individual help than others. The needs may vary throughout the year with changing situations and new experiences.

Adequate working space where the special teacher and child can have privacy is most important. Such arrangements may vary from school to school, but it is essential to have adequate lighting, and to see that interruptions are kept to a minimum. Certain equipment and supplies may be left in this room for the child's use under certain circumstances when the special teacher is not in the building.

In the early fall the Stanford achievement tests in large print are given by the special teacher at the time the child's grade is taking the same test. Time and a half is allowed on each test, thus giving the partially seeing child a fairer chance to show his ability. The special teacher checks the tests and gives a summary of the results to the classroom teacher who also reviews the test. It is later filed in the office of the special teacher.

When the special teacher goes to a school to work she always discusses with the child's regular grade teacher the subjects in which he needs extra help at that particular time. In most cases the need varies from week to week, and from child to child. In the lower grades much help is given in reading, phonics, beginning spelling and writing. The special teacher can reinforce and supplement the regular teaching and also clarify certain points because she has the child's undivided attention.

In the upper grades the period is usually spent in helping a child finish an assignment, explaining the work, or in reading an assignment. In junior high school the pupil himself decides as to the subjects in which he needs extra help. Typing is started in the sixth grade and carried on through the eighth in order to give these children another tool to help them with their education. Through weekly conferences the classroom teacher learns of the work done by the special teacher.

Teacher's Schedule

In this program the special teacher rather than the children must have transportation. Her daily schedule within the city is planned so that the trip from one school to the next can be made within 15 minutes. Fortunately, the programs farthest from her office are grouped in one section of the county so that visits can be made to all on the same day. The remaining county programs are visited on other days.

Usually there are a few pupils who do not require extra teaching help but need large-type materials. They are listed as "contact" cases on all reports and are visited every four to six weeks.

Factors such as the following determine the number of children who can be assured a program that enables them to achieve their maximum potentialities: degree of visual loss; ability to use vision efficiently and to the best advantage; intellectual capacity; other physical or emotional handicapping conditions; amount of travel required by the special teacher; consideration of the over-all scheduling of the teacher's time.

Thus far the case load has varied from 20 to 25 pupils.

Progress Reports

At the end of the school year the special teacher prepares a summary for each school indicating the work she

has covered and the supplies furnished. This is filed in the child's permanent folder, along with a summary of his test results, and his medical eye record. She prepares a more comprehensive report on each child for filing in her own office. Each month she also prepares a report for the employing superintendent. A pupil list and a schedule for the month is attached to a record that includes: pupils entered and dropped from the program; contacts made with school personnel, parents, and personnel of related discipline; community activities; and development of community resources. A transportation report is also made, listing for each day the schools visited and the mileage; 350 miles is the monthly average. This report is also given to the business manager so that the mileage remuneration may be figured.

To insure understanding and cooperation periodic evaluations are important. Thus far one survey has been made through questionnaires filled out by each school participating in the program. The results helped the special teacher to meet the needs, strengthen the weaknesses and plan for the future.

Advantages of the Plan

Following are advantages that we have noted in using the itinerant teacher plan:

1. The cost is less to all districts participating.
2. A child does not have to travel a long distance to get to his school.
3. The children are happier and more contented attending their own schools in their local districts.
4. More children with serious vision problems are able to receive special educational help.
5. More special supplies are available to the participating schools from the office of the special teacher.
6. The special teacher acts as a consultant on vision problems in the schools that she visits.
7. The special teacher is a source of information as to where special help may be obtained for other types of exceptional children.
8. The special teacher gives confidence to the visually handicapped child. He awaits her visits with anticipation, and he receives extra attention.
9. The regular grade teacher loses any fears that she might have in regard to this child when she has the special teacher to help her meet problems.
10. Through examples of the work that is helpful to partially seeing children a school becomes more aware of practices and procedures that are beneficial to all children. Therefore this program, active in many buildings, promotes the idea of good eye health and visual environment for all children in a greater number of schools than does a special program located in only one building.

PARTIALLY SEEING MAY TEACH

Blind and partially seeing Pennsylvanians may now apply for certification as teachers in the secondary schools of the state, reports *The Seer*. Legislation enacted during the 1959 session opens this field to the physically handicapped who otherwise have the qualifications for such teaching. Also reported is an expansion in services and facilities of several branches of the Pennsylvania Association for the Blind to meet growing needs.

Coordinating New York City's Resources for Partially Seeing Children

MILDRED M. KEATING

Former Acting Supervisor
Bureau of Education of the Visually Handicapped
Board of Education, City of New York*

Many services are needed in preparing children with visual limitations to lead full, happy and productive lives.**

ALTHOUGH educational objectives are the same for all children the means of attaining them and the degree to which they are attainable vary with individual physical, intellectual and emotional characteristics.

We in the schools know that we cannot focus attention on a child's visual condition apart from the whole child. Educational adjustment is the result of the coordination of medicine, psychiatry, social work, recreation, psychology and education. As the needs of the child who has a serious visual limitation point up more clearly his complex nature, it is appropriate that special education take the leadership in bringing to the fore the need for the various services in his educational treatment.

In order to provide a richer school experience for the visually handicapped child New York City has established 73 classes on all levels—elementary, junior high and senior high—which are administered by specially trained teachers. In most cases the children are brought to school by buses provided by the city. The special teacher arranges with the supervisors and teachers of the regular classes to have the partially seeing child work with his peers in age, interests and abilities. She explains the nature of his visual handicap to the regular grade teacher who thus has a better understanding of his potentialities and limitations.

The special teacher, in addition to the direct instruction which she gives him, makes the student's performance in the regular class possible by supplying him with large-print textbooks, materials enlarged on bulletin typewriters, and instruction in the use of special equipment such as the projection magnifier, bulletin typewriter, talking book, radio and tape recorder.

Itinerant Program

In addition we have an itinerant teaching program on all school levels. This serves some of the partially seeing and also brings help to children who have other problems in addition to their visual limitations. Our itinerant teachers visit these children regularly to assist in teaching them, to bring them needed educational mate-

* Mrs. Keating is now Assistant Principal of P.S. 168, Manhattan.

** Presented at the meeting of the Council for Exceptional Children, Atlantic City, N. J., April 9, 1959.

rials and to consult with their regular teachers. Recently our service was expanded by assigning a specially trained teacher to help partially seeing students in the vocational high schools and two gifted students in the High School of Science.

Parents usually need information and advice in their endeavor to prepare children with limited sight to lead normal, useful lives. They recognize the need for special guidance, but often do not know where to obtain it, since there are so many agencies with varied services in a city as large as New York. A regularly licensed guidance counselor is assigned to our bureau to assist the schools in resolving some of the adjustment problems of pupils. He provides articulation from one school level to another. He interviews parents and pupils and advises on a choice of high school, vocation or job. A visiting teacher confers with parents and pupils and helps to solve special problems. Two supervisors aid our staff of teachers and other personnel by coordinating the resources of the city and outside agencies.

Many Bureaus Cooperate

Many bureaus of the Board of Education cooperate with our Bureau for Education of the Visually Handicapped in helping the individual child adjust to his school environment. The Bureau of Attendance helps by investigating the absences of our pupils. An attendance officer visiting a home may find that the child lacks proper clothing. He reports such a case to the welfare worker who, through a clothing bank, provides the necessary articles. If, on the other hand, the child is found to be a truant, the officer works with him and his parents to convince them of the need for regular attendance at school.

The Bureau of Child Guidance, through its staff of trained social workers, psychologists and psychiatrists, treats the pupil who finds it difficult to adjust to classroom living. The special teacher refers such a troubled child to his supervisor, who arranges with an intake-worker to have him tested. Most of the cases referred to this bureau fall into the categories of school phobia, mental retardation and emergency in which the child is a danger to himself and others. The test results are sent back to the bureau and school, and a follow-up program is arranged to help the child.

The Bureau for the Education of the Physically Handicapped also cooperates by arranging a program of education for the child with visual and other physical limitations.

Rapport between our bureau and the other divisions of the Board of Education is maintained on a high level. We expect our children to participate to the extent of their abilities in the programs prescribed by the early childhood, the elementary, the junior high and senior high school divisions. These cooperate by sending us literature and directives and by making the services of their experts available to our teachers and supervisors.

Other City Agencies

New York City offers guidance to partially seeing children and their parents through agencies other than the Board of Education. The Welfare and Health Council is the central planning and coordinating organization for public and private welfare and

health agencies. Its information bureau handles inquiries and makes referrals to social and health agencies as needed. A staff of experienced social workers help the partially seeing by offering resources in the areas of physical and social need.

The Department of Welfare offers public financial and other assistance to children who are within the legal definition of blindness.

The Bureau for Handicapped Children of the New York City Health Department provides information and consultation services on behalf of children up to 21 years of age. It maintains a staff of medical, nursing and social work consultants, and operates a series of eye diagnostic clinics for children. This bureau coordinates and promotes community resources to meet needs of the partially seeing.

The Division of Vocational Rehabilitation of the New York State Department of Education serves persons 14 years of age and over where the visual condition constitutes a vocational handicap. This service includes vocational counseling and training, physical restoration, and job placement or adjustment.

Other agencies such as the Lighthouse of the New York Association for the Blind provide recreational activities for the visually limited in addition to their other services. Classes in music, dancing and crafts are planned for children. Summer recreational programs and camps function during vacation time.

Rewards of Concerted Effort

Other agencies too numerous to mention offer varied services for partially seeing children. Fraternal organizations such as the Lions donate projection magnifiers for use in our classes. Religious groups assist persons of all creeds in the fulfillment of their spiritual, material, recreational and educational needs. Local community agencies such as the Brooklyn Association for Improving the Condition of the Poor provide educational and recreational programs.

The National Society for the Prevention of Blindness provides consultant services, promotes research and training programs, and publishes literature.

Through these many resources—in school, community, city and nation—we hope to achieve our goal, which is to help children with visual limitations lead full, happy, productive lives. We want them to become adults who are mentally sound, spiritually whole, socially and economically competent. The concerted efforts of all who are privileged to participate in the education of these children will in large measure contribute to the realization of these goals.

EYE FILM FOR CHILDREN

A series of cartoon films called "This is You" has been created by the Disney studios to instruct children of elementary school age in science and health. Jiminy Cricket narrates "You and Your Eyes", which explains the mechanics of seeing and emphasizes proper eye care and safety. It is done in sound and technicolor, 16 mm., eight minutes running time.

Prints are available on a six-year lease at $125 ($100 to non-profit organizations) from the Educational Film Division, Walt Disney Productions, Burbank, California or 477 Madison Ave., New York 22.

SUMMER COURSES—1960

The following universities and colleges will offer courses of preparation in teaching partially seeing children during the 1960 summer session. The basic course follows the outline recommended by the National Society for the Prevention of Blindness in cooperation with its national advisory Committee on Education of Partially Seeing Children as the minimum essential preparation. The full sequence of courses provides the requirements for certification in most states. All courses offer graduate credit.

In addition to preparing the special teacher, the basic course is helpful to administrators and supervisors of these programs as well as to health personnel which have an essential part in identifying and supervising the health needs of the partially seeing.

The course includes medical lectures on the eye and eye hygiene, with opportunities for observation in eye clinics; discussion of organization and administration of services, emphasizing the three types of programs.

Scholarships may be available from the Delta Gamma Fraternity by application through Mrs. Raleigh T. Daniel, 2666 Chain Bridge Road, N.W., Washington 16, D. C., and from Local Lions Clubs. Individual colleges and universities also may offer scholarships.

Basic Courses

George Peabody College for Teachers. June 13–August 16. S. C. Ashcroft, coordinator, preparation for teachers of visually limited children. Nashville 5, Tennessee.

Illinois State Normal University. June 20–August 12. Dr. Harold R. Phelps, director, division of special education. Normal.

Los Angeles State College. June 20–July 29. Dr. F. E. Lord, head, department of special education. 5151 State College Drive, Los Angeles 32, California.

San Francisco State College. June 27–August 5. Robert A. Bowers, assistant professor of education. 1600 Holloway Avenue, San Francisco 27, California.

Intersession. June 20–24. Workshop—Problems of the Visually Handicapped Student in the Secondary School. Enrolment limited.

Syracuse University. July 5–August 12. Mrs. Ferne K. Root, education of exceptional children, School of Education. Syracuse 10, New York.

University of Minnesota. June 13–July 15. Jeanne R. Kenmore, department of educational psychology, Pattee Hall, 15A, Minneapolis 14.

University of Pittsburgh. June 27–August 5. Ruth D. Hawkins, coordinator, department of special education. Pittsburgh 13, Pa.

Wayne State University. June 27–August 6. Dr. John J. Lee, chairman, department of special education and vocational rehabilitation, College of Education. Detroit 2.

Advanced Courses

San Francisco State College. Advanced Problems in the Education of the Visually Handicapped. (Inquire of college regarding dates. See Basic Courses.)

Syracuse University. Advanced Workshop in Educational Guidance and Counseling for Partially Seeing. July 25–August 5. Coordinator, Helen Gibbons, consultant in education, National Society for the Prevention of Blindness. Mrs. Ferne K. Root, education of exceptional children, School of Education. Syracuse 10, New York.

A limited number of NSPB scholarships are available for this course through the university.

NSPB at Work

ENOS CURTIN, who was elected president of the National Society last December, has addressed the following letter to its members and friends:

"You have given me an opportunity and a privilege by electing me president of your Society. The challenges inherent in our program for the prevention of blindness are of very special interest to me. I accept them with the hope that we will successfully meet them, and continue the notable gains made under the leadership of Mason H. Bigelow for many years and, more recently, Dr. Ira V. Hiscock.

"We are the only voluntary health agency devoted exclusively to a comprehensive program of research, education, community and industrial services for the prevention of blindness. It will require our continued devotion of time, money and effort to bring us new knowledge, through research, and to expand our activities for applying what we know now and learn in the future.

"I am confident that with your continued interest and support we can make the lives of many thousands richer and happier through the Society's program for prevention of blindness."

New Members of Board

Elected to the Society's Board of Directors at the December annual membership meeting were five new members, all of whom have given strong support to the NSPB program over a period of years. They are:

Mrs. Dorothy Bryan, assistant to the director, division of special education, Department of Public Instruction, Springfield, Ill.

Ralph E. Dwork, M.D., director of health, State Department of Health, Columbus, O.

Mrs. Ronald J. Foulis, chairman, Delta Gamma National Project Sight Conservation and Aid to the Blind, Washington, D. C.

Edward R. Granniss, manager, Loss Prevention and Engineering Department, Royal-Globe Insurance Group, New York.

Frank W. Newell, M.D., chairman section of ophthalmology, department of surgery, University of Chicago.

Four Join Staff

John L. Wallace has been appointed national development director of the National Society. For the past five years he has served as director of fund raising for the New York State Heart Assembly, Inc., State Committee on Tuberculosis and Public Health of the State Charities Aid Association. In his new post he will be responsible for raising funds to carry on NSPB activities as related to the program of preventive service, education and research.

John D. Coleman has been named director of public relations and public information. He was formerly executive secretary of the Albany County Tuberculosis Association; has had wide experience in program development in the health field with particular emphasis on public relations.

Diane Isola has been appointed assistant director of public relations and public information. She has had extensive experience in working with

the media of mass communication in the commercial field, also with the American Red Cross and the United Chests and Community Councils.

Mrs. Elizabeth M. Hatfield has joined the staff as consultant in statistics. She comes to the Society with a background of experience with health departments in Michigan, North Carolina and Virginia. Her assignments have involved work in biostatistics that eminently qualify her for her new post.

Pan American Congress

The National Society has been closely associated with the aims and interests of the Pan American Association of Ophthalmology since its first meeting in 1940. The chief objective of this cooperation has been the development of prevention of blindness programs in Latin American countries. The Society has been represented at each of the six congresses held by the Association thus far.

Among various cooperative services NSPB has arranged for two medical social workers to come from Brazil on scholarships from the Coordinator of Inter-American Affairs for special training in eye work at Washington University, St. Louis, and for study of prevention of blindness programs in the United States. Pursuant to action taken by the International Association for Prevention of Blindness and the Pan American Association of Ophthalmology the Society serves as secretariat for the Western Hemisphere. Several joint meetings have been held with PAAO. In February 1946 the NSPB Board authorized the establishment of a gold medal award for distinguished service in prevention of blindness in this hemisphere.

The VI Pan American Congress, held in Caracas, Venezuela, January 31 to February 7, 1960, was attended by Dr. John W. Ferree, the National Society's executive director, and Mrs. Virginia Smith Boyce, assistant director. The trip provided an opportunity to meet, en route, with the Society's Committee in Puerto Rico. Dr. Ferree reports that he was much impressed with the efforts and wise planning that characterize the development of prevention programs in San Juan. There is excellent lay and professional leadership working harmoniously together to expand and improve resources and facilities.

The Congress in Caracas was marked by the best attendance at any to date. The scientific sessions were well attended and the papers were of good quality. The location at Puerto Azul provided an informal and intimate climate for developing and bettering relationships between the members from the various countries. The Venezuelan Organizing Committee and the Government provided friendly hospitality and pleasant social events.

Association's Growth

In his address to the Congress President Brittain F. Payne of New York said that the Association is now the largest ophthalmological society in the world, with 2,000 active members representing 22 countries from Iceland to Tierra del Fuego.

"In spite of language barriers and difference in customs," he said, "the illustrious founders were able to present a superior code of ethics welcomed by all nations. We are indebted to our late beloved executive director and third president, Dr. Moacyr E. Alvaro, our first president and founder

the late Dr. Harry Gradle, and our second president and founder, Dr. Conrad Berens.

"Fortunately, the Pan American Association of Ophthalmology has been able to serve as an important medium for the exchange of the latest medical and scientific information within the Americas and throughout the world. The splendid cooperation of the ophthalmological societies in all countries has made this program extremely successful. Ophthalmologists from North America have been privileged to visit and learn new methods and procedures from their South American colleagues. Distinguished confreres from South America have lectured and compared scientific notes with ophthalmologists in North America, for the benefit of all the people of the Western Hemisphere."

Dr. Payne pointed out that perhaps the greatest contribution bestowed on ophthalmology came from South America in the form of cocaine. This wonderful drug made the operation for cataract painless and opened the doors for the advanced surgery of today. Numerous other contributions such as snake venom and curare have their origins in South America.

Dr. Payne reported that every country in the Western Hemisphere has initiated programs to prevent blindness and members of the Association are identified prominently in the various organizations.

Tribute was paid to the Venezuelan Organizing Committee headed by Professor Jesus Rhode, to Professor J. M. Espino for his guidance in all stages of the development of the Association and the Congress, and to the individual members of the Organizing Committee and the Venezuelan Ophthalmological Society for their unselfish and diligent work.

"The Central University of Venezuela, in whose Aula Magna we are assembled," said Dr. Payne, "was founded in 1725, long before many universities of the Western Hemisphere. It maintains one of the greatest medical centers in the world. The hospital is the best I have ever visited and serves as a model for modern construction in the field of health. The staff is excellent, and the department of ophthalmology, directed by Professor Rhode, is renowned throughout the world."

The Congress closed with the presentation to Dr. Conrad Berens, by Dr. Payne, of the National Society's Pan American Medal, for outstanding contributions to the field of blindness prevention. Dr. Berens is the fourth recipient and the second from the United States to so honored for leadership and service.

The Society sponsored an exhibit on causes of blindness in the United States, and a session on prevention of blindness. It was evident from the latter that real progress is being made in several countries and that there is an increasing interest in others.

Cooperative Service

NSPB continues to maintain cooperative relationships with many organizations in health and allied fields. Dr. Ferree has recently accepted an invitation to serve as a member of the President's Committee on Employment of the Physically Handicapped. He has also been elected treasurer of the Illuminating Engineering Research Institute, which works closely with the Society on problems of lighting and vision.

Dr. Everett L. Goar of Houston, Texas, honored for his many years of leadership and service in prevention of blindness.

Education of Partially Seeing

A Congressional subcommittee on special education under the chairmanship of Representative Carl Elliott of Alabama has been conducting a two-year study to determine unmet needs in this field. Helen Gibbons, NSPB consultant in education, has served as co-chairman of a section on the visually limited at Hunter College which prepared a report used in testifying at a hearing of this committee in New York in December. Mrs. Helen W. Fields, director of New York City's Bureau for Education of the Visually Handicapped, was co-chairman of the Hunter group.

This opportunity to call attention of the Congressional committee to the needs of the partially seeing was very important, particularly in relation to those children who have better than 20/200 vision and therefore are not presently included under benefits for the legally blind.

A meeting of the National Society's Committee on Education of Partially Seeing Children was held in New York last December under the chairmanship of Mrs. Dorothy Bryan of Illinois. The continuing problem of how to help in identifying and providing services for those children not presently receiving them was an important topic of discussion. The related need to recruit properly trained persons and assist them through scholarship aid was emphasized.

Twelve educators and medical specialists serve on this committee. It has recently completed the task of selecting finalists from the state nominees for the 1960 Winifred Hathaway Award. This is to be given annually to the "Teacher of the Year for Partially Seeing Children." The national award will be announced at the NSPB Annual Conference in Denver.

State Activities

Texas

Dr. Everett L. Goar of Houston, who for many years has been a member of the Board of Directors of the National Society and a consultant in relation to its program, was honored at a luncheon given recently at the Houston Club by the NSPB Texas Committee. A special award of appreciation was presented to him by Dr. Edwin E. Garrett, state professional advisory committee chairman. Among those paying tribute to Dr. Goar's years of leadership and service in prevention of blindness were Jess W. Bryan, Texas Committee chairman; John Schuhmacher, the committee's first president, and Mrs. Ruby M. Hopkins, NSPB field service director.

A branch of the Texas Committee has recently been organized in El Paso, where plans for preschool vision screening and the promotion of an industrial eye safety program are under way.

Mrs. Rob Roy MacGregor has been elected chairman of the group.

During this trip to Texas Mrs. Hopkins visited the Dallas Branch and discussed program plans with Harold R. De Mass, who serves as treasurer of the northern Texas division of the state committee; also with Roman Boerger, branch chairman, and Dr. Leslie H. Quinn, chairman of the professional advisory committee.

Oklahoma

The Oklahoma Hospitality Club has contributed more than $800 for the establishment of a film library for the use of the Oklahoma NSPB Committee. Volunteers from the club will promote the use of the films.

Louisiana

Mrs. Pauline Brown of New Orleans is the new state secretary of the NSPB Louisiana Committee. She is well known to many ophthalmologists as she serves as executive secretary of the New Orleans Academy of Ophthalmology.

Virginia

Mrs. Charles N. Grubbs of Richmond has been named state secretary for Virginia.

Success of New Film

The Society's new eye safety film, "It's Up to You," is being received enthusiastically by industry, insurance and safety groups, not only in the United States but in far-off places such as Australia and South Africa. Unsolicited letters of commendation about the film arrive daily, many of them stressing the importance of the medical sequence which shows the magnetic extraction of an intraocular foreign body.

MRS. McINTIRE RETIRES

Mrs. Hazel C. McIntire, a national authority in the field of special education, has retired from her position as director of the Ohio division of special education, State Department of Education, after 25 years of service.

Mrs. McIntire was a member of the Board of Directors of the National Society from 1939 to 1948 and in 1953 was named an honorary life member. She served as chairman of the Society's Committee on Education of Partially Seeing Children 1951–1958.

Mrs. McIntire, who began the Ohio program of special education in 1924, was influenced by her interest in exceptional children to turn from a promising musical career to devote her time to the special education field. In her own state she organized services for children needing special planning and facilities to permit them to attend public schools, and she has served as adviser in other states where similar programs were being planned. On many occasions she has been asked to advise in legislative matters relating to special education provisions.

She worked closely with the National Society for many years in its program of education of partially seeing children and to a considerable degree was responsible for its progress.

LIST OF READING AIDS

A wide assortment of reading aids for the handicapped is available, including large print books, magnifiers, page turners, book stands projectors and reading and talking books. A useful guide which gives selected references in each category, describes the item when necessary and tells where it can be located, has been compiled by Dorothy E. Nieman, chairman, subcommittee on

For Educators of Children with Impaired Vision

an Extensive Program of Courses and Workshops at

SYRACUSE UNIVERSITY SUMMER SESSIONS

July 5—August 12, 1960

The following courses are offered in cooperation with the American Foundation for the Blind, Inc., City of New York:

- Student Teaching with Blind Children
- Principles and Methods of Teaching Braille
- Introduction to the Education of Blind Children
- Advanced Problems in the Education of Blind Children
- Workshop on Guidance and Counseling for Adolescent Blind Children (2 weeks–July 11-22)

The following courses are offered in cooperation with the National Society for the Prevention of Blindness, City of New York:

- Education of Partially Seeing Children (Theory)
- Education of Partially Seeing Children (Practice)
- Educational Implications of Visual Impairments
- Advanced workshop in educational guidance and counseling for partially seeing (2 weeks–July 25-August 5)

For further information write: Ferne K. Root, Box 50, Special Education Building, Syracuse University, Syracuse 10, New York

reading aids for the handicapped of the audio-visual committee, American Library Association. It is published in the November 1959 issue of *Rehabilitation Literature.*

TEACHING OPPORTUNITIES

Two opportunities in the field of education of partially seeing children have come to the attention of the National Society.

Los Angeles State College has an opening in its department of special education for an assistant professor, with an M.A. degree and five years of teaching experience in areas of education of the blind and partially seeing. The assignment involves credential and advanced courses for teachers in these areas and supervision of directed teaching. For detailed information write Albert D. Graves, dean of the college, at 5151 State College Drive, Los Angeles 32, Calif.

Clark County School District, department of physical and mental health, Las Vegas, Nevada, is in need of a sighted teacher who is qualified for teaching both partially seeing and blind in an itinerant program for junior high school pupils. This candidate should be able to drive to the various school locations. For detailed information write Silvio G. Zinicola, program for the visually handicapped, P.O. Box 551, Las Vegas.

LIGHTING FOR THE PARTIALLY SEEING

Proper classroom lighting for partially seeing children is discussed by Dr. A. Dubois-Poulsen, French ophthalmologist, in the November 1959 issue of *Better Light Better Sight News.* He analyzes the visual difficulties of such children and makes recommendations for lighting installations and illumination levels.

No universal formula for lighting can be given because of the great individual diversity in the ocular affections of amblyopic children. Particular needs can be met by employing local units in addition to the general system.

NOTES AND COMMENT

• Eye Health in Hawaii

The government of Hawaii is now being reorganized in accordance with the requirements of the state constitution. It is proposed that some 80 boards, commissions and departments, including the health and welfare group, be consolidated into 20. Thus the program of the Bureau of Sight Conservation and Work with the Blind is under special study.

The activities of the Bureau, which recently observed its 25th anniversary of service, include vision screening, sponsorship of 10 rural eye clinics, social case work, medical care, vocational rehabilitation, and provision of special visual aids and appliances.

Medical authorities estimate that half of the blindness in Hawaii could be prevented by better general health and a generally better informed public. The Bureau is working toward this objective by means of radio and television programs, exhibits, news releases, films and various special events. Surveys and research projects are an important part of this program.

• County Glaucoma Test

The first community-wide glaucoma detection program ever held in Michigan was conducted jointly in Ottawa County last May by the Ottawa County Medical Society, the Ottawa County Health Department, the Michigan Department of Health, and the Holland Lions Club.

Michigan's Health reported in November 1959 that 34 cases of suspected and previously undetected glaucoma were found among the 1,679 persons tested. Follow-up results were not complete, but 17 of the suspected cases had already been diagnosed as glaucoma and were under treatment.

The Ottawa County detection program was offered without charge to all residents of the county 40 years of age or older.

• Award To Dr. Noell

Dr. Werner K. Noell of the Roswell Park Memorial Institute, Buffalo, has been awarded the 1959 Jonas Friedenwald Memorial Plaque by the Association for Research in Ophthalmology. This award, established by the association 28 years ago, was given Dr. Noell for his work in retinology. His lecture, "The Visual Cell: Electric and Metabolic Manifestations of Its Life Process," was published in the November 1959 issue of the *American Journal of Ophthalmology* (Part II), which presents the proceedings of the Association's 28th annual meeting.

• Guild Fellowships

Six fellowships for residents in ophthalmology, to be awarded July 1, 1960, have been announced by the Guild of Prescription Opticians of America, Inc., through its president, William T. Heimlich of Ithaca, N. Y. Applications for these fellowships must be received by May 15. Each is for a total of $1,800, payable in monthly stipends over the period of a three-year residency. Application forms and covering information are available by writing to the Guild at 110 East 23rd Street, New York 10.

The six new fellowships represent one for each of the six areas into which the United States and Canada have

"I'm afraid glasses won't help—what you need is radar!"

Drawing by Harold Sharp, *Journal of the American Medical Association*

been divided on the basis of a nearly-equal number of eligible residencies in each area.

The Guild provides all fellowship funds as well as the program's cost of administration, but the selection of the fellow is made by a committee of ophthalmologists in each area.

• Union Eye Care Center

The first union health program to apply for and be accepted as a member of the Welfare Council of Metropolitan Chicago is the Union Eye Care Center. Organized nine years ago, the Center joins 265 other Council members in planning for and expanding needed health services for the entire community.

Thomas J. Burke, chairman of the Center's board of directors and president of BSEU 25, announced its acceptance into the Council. "Since good medical eye care is part of good health care," he said, "we hope through membership in the Council to be able to contribute to Chicago's general health service and improve our own program as well."

In order to qualify for membership in the Welfare Council a program must be non-profit, and must be able to show that its services are truly needed by the community; and it must demonstrate sound policy formulation and responsible leadership.

The Center is composed of 104 union groups; serves their members and immediate families with complete eye care. It was the first union health program to be organized in Chicago.

• Gift for Eye Research

The establishment of the Max, Martha and Alfred M. Stern Fund at Harvard University has been announced by Dr. George P. Berry, dean of the faculty of medicine. The gift of $125,000 was made for research in ophthalmology "and for studies re-

garding glaucoma and cataract . . . or closely related to the diseases of the eye" to be carried on in the Howe Laboratory of Ophthalmology of the Harvard Medical School and the Massachusetts Eye and Ear Infirmary.

• California Project

A prevention of blindness program has been established in the California State Department of Public Health following a five-year study of the distribution and nature of conditions leading to loss of sight among the people of that state.

California's Health reports that this is a direct result of a project, financed by the W. K. Kellogg Foundation and inaugurated in 1954, for the primary purpose of investigating the practicability of public health effort in prevention of blindness in the State.

The newly established program will continue studies to determine the number, distribution and nature of conditions leading to blindness, investigate further the causes of it and give consultation and assistance to local health departments and other agencies in their sight conservation programs.

• Kansas Glaucoma Clinics

A series of glaucoma screening clinics has recently been conducted in Kansas in conjunction with a diabetic screening program of the State Board of Health. Marguerite Blase, medical social consultant, Division of Services for the Blind, reports that they were held in rural communities where there are very few eye specialists.

Each of these projects was launched with sponsorship by a local civic group and a publicity campaign. Press, radio, the film "Hold Back the Night" and a wide distribution of pamphlet material were the media used to alert the public.

Clinics were held in nine communities and 7,182 persons were tested. Of these 379 were referred for eye examination, and so far 105 have been found to have glaucoma. Medical reports are still coming in and follow-up is being continued. Records were kept on all persons with positive tests, and if they did not seek an eye examination as advised they were visited by the county social worker.

One of the doctors cooperating in this program commented: "This is one of the most worth while programs yet initiated by the Department of Social Welfare." Another said that he was certain the clinic educated the public and made it more conscious of glaucoma. He also hoped that the clinic and the publicity educated the doctors as to the necessity of testing for the disease. Another said: "I live at the fringe of the trade territory where the surveys have been conducted and I have had as many as seven or eight persons report to my office for examination as a result of a relative in Scott City being diagnosed as having glaucoma."

• Gift of Equipment

The Memphis Eye, Ear, Nose and Throat Hospital now owns a Zeiss Light Coagulator, thanks to a large contribution from the Memphis Optical Dispensary and $5,000 from the Mid-South Lions Sight Service, Inc. which announces its gift in a recent newsletter. The machine, used in the treatment of detached retina and other eye conditions, costs more than $17,000 and would have been beyond the means of the hospital, which is maintained by the Methodist Church.

DEAN FARNSWORTH

Dean Farnsworth, Commander, MSC, USNR, internationally known authority on color vision, died in Bethesda Naval Hospital on December 27, 1959. Despite a long and very painful illness his interest in the science of color never failed and he continued his work until shortly before his death. One of his many notable contributions to the National Society's program was his substantial help in the preparation of the article on color vision that appeared in the last issue of *Sight-Saving Review.*

Commander Farnsworth was born in Kansas in 1902. He attended Southwestern (Kansas), Northwestern and New York Universities, and after teaching scene design at Northwestern for three years, he entered the field of stage designing and lighting techniques for theatre and television. For eleven years he was research associate of the department of psychology at New York University where he received his M.A. degree.

Between 1943 and 1957 Commander Farnsworth was head of the human engineering branch, Medical Research Laboratory, of the U.S. Naval Submarine Base at New London, Connecticut. In the following two years he was attached to the Office of Naval Research Branch in London, and it was there that his illness began.

Commander Farnsworth was very active in the work of the Inter-Society Color Council which he joined in 1938, and he contributed many papers and scientific reports in the color field. His group at New London determined the most suitable color for life-saving equipment, and developed sunglasses for the Navy and Air Force. He was well known for the Farnsworth Lantern and Farnsworth-Munsell tests for color vision.

LEONARD W. JONES, M.D.

Dr. Leonard W. Jones, a Rochester, N. Y. physician for 50 years, and an eye specialist since the mid-1930's, died in that city on January 13 at the age of 80.

Dr. Jones was chief of ophthalmology at Rochester General Hospital for more than 10 years, and chairman of its medical board in 1935–36. He was chief of ophthalmology for Eastman Kodak Company from 1947 to 1953, having previously served the company as a part-time physician.

He was one of the founders of the Rochester Orthoptic Center; was a former president of the Rochester Academy of Medicine, and a life fellow of the American Academy of Ophthalmology and Otolaryngology.

Dr. Jones received his medical degree at Queen's University in Canada. He practiced in Ottawa and was a resident at Manhattan Eye and Ear Hospital before going to Rochester. He was greatly interested in the field of blindness prevention and in the activities of the National Society. Many of his friends have sent gifts to the Society in his memory.

SCHOOL OF AVIATION MEDICINE

An article in the *Medical Technicians Bulletin*, November-December 1959, describes the many unique features of the new multi-million dollar School of Aviation Medicine at Brooks Air Force Base, Texas. The department of ophthalmology, for example, has 16 lanes for testing eyesight, and a shop for making contact lenses—the only one of its kind in the Air Force.

AROUND THE WORLD

INDIA

Drive Against Trachoma. Ophthalmologists and investigators from the Gandhi Eye Hospital in Aligarh, Uttar Pradesh, assisted by WHO, are now carrying on a vigorous campaign to combat the widespread occurrence of trachoma in India. It is estimated that almost 300,000,000 persons there are suffering from the disease. In some northern rural areas the infection rate is as high as 80–90 per cent of the total population. The hospital team is systematically visiting village after village, examining patients, organizing mass antibiotic treatment and conducting research to determine how the infection is spread. WHO reports indicate that the campaign is proving effective in preventing blindness but notes that complete control of trachoma and associated bacterial conjunctivitis requires long-term health education and sanitation programs.

MOROCCO

Trachoma Clinics. The *Oeuvre de Secours aux Enfants* (Child Welfare Work) has come a long way since its inception in 1947 with one small in-service program in Casablanca. It is now reported to be the largest single voluntary agency providing health services to children of needy Moroccan-Jewish families. The OSE conducts a variety of health programs for about 70,000 people in six cities, including community treatment centers for trachoma. The children in the poorer districts where housing is inadequate and sanitation poor are subject to the disease.

SOUTH AFRICA

Trachoma Research in Johannesburg. A team in Johannesburg is conducting research based on the work of Collier in London and others in isolating and culturing the trachoma virus. The South African team has succeeded in growing the virus—named the Jane Furze strain—in eggs, according to a report in *Newsletter No. 32* of the South African National Council for the Blind. An attempt is being made to grow the virus strain in tissue cultures and to infect monkeys. When more is known about the behavior of the virus a human volunteer will have to be infected, since monkeys develop follicular conjunctivitis and not a true trachoma.

The Johannesburg team hopes to establish whether trachoma in China, Gambia, and South Africa is caused by the same agent. At the same time they will have the opportunity to study all aspects of the disease in the laboratory. The goal of researchers, of course, is an effective vaccine against trachoma, and the Johannesburg project is extending this search.

SUDAN

Ophthalmological Survey. Dr. Javier Torroella of Mexico has been appointed WHO consultant for an ophthalmological survey of the provinces

of Equatoria and Bahr-el-Ghazal where there is a high incidence of blindness due to onchocerciasis. According to a recent issue of *WHO Chronicle*, his task will be to select the most suitable areas in which to try out control methods, and to obtain data for future evaluation of the situation. A consultant on entomology will subsequently visit the area and advise on methods of vector control.

Dr. Torroella is chief of the clinic of the ophthalmological department, National Faculty of Medicine, University of Mexico, and consultant ophthalmologist of the General Hospital and Institute of Tropical Diseases, Mexico City.

WEST PAKISTAN

Hospitals Fund. Col. Roland I. Pritikin, MC, USAR, of Rockford, Illinois, gave one of the principal addresses at the recently celebrated Golden Jubilee of the founding of the Henry Holland Eye Hospital at Shikarpur, Sind, West Pakistan. Col. Pritikin is president of the Henry Holland Mission Hospitals Fund which sponsors American physicians who have been going to Shikarpur to do eye surgery since 1911.

This year Col. Pritikin is accompanied by Col. Kenneth Somers, MC, USA, who is assistant chief of the eye clinic at Walter Reed Army Hospital, Washington, D. C. They are making a study of zonulysis in cataract surgery.

A special feature of the ceremonies was the presentation of a jeep-ambulance to the hospitals. This will take ophthalmological services to the remote villages of the Pakistan-Afghanistan frontier.

In his address Col. Pritikin thanked Dr. Victor E. Lepisto of Hancock, Michigan and Dr. Derrick Vail of Chicago for their outstanding work in behalf of the Fund. Dr. Lepisto is secretary-treasurer, and Dr. Vail honorary chairman, board of directors.

YUGOSLAVIA

Center for Eye Study. To make the most propitious use of facilities now available and to develop others for the study and prevention of blindness in Yugoslavia it has been felt that a central organization devoted to these problems is necessary. The League for the Blind of Croatia decided at its Second Congress held in Zagreb in June, 1958 to organize such a center. It would serve the whole republic according to Dr. V. Hudolin and Dr. N. Laktic, writing in the *Journal of Social Ophthalmology*, first quarter 1959.

The center would collect statistical data as a basis for further study; work in collaboration with other institutions in the treatment of patients with eye disease; offer facilities for the rehabilitation of the visually handicapped and social work facilities.

GLAUCOMA TESTS FOR DOCTORS

Doctors over age 40 queued up in Denver on February 17 for glaucoma tests offered at the Colorado State Medical Society's annual midwinter clinical session. The tests were sponsored by the Colorado Chapter of the National Society for the Prevention of Blindness and the Colorado Ophthalmological Society.

Members of the Ophthalmological Society volunteered their services in conducting the tests.

At the society's midwinter clinical session last year 220 persons were tested. Six cases of glaucoma were discovered—four of them among physicians themselves.

Boston University
School of Education
Library

CURRENT ARTICLES

Scleral Rigidity and Tonometry in the Aged. J. Schneider, M. Feldstein, and A. L. Kornzweig. *American Journal of Ophthalmology.* Vol. 48, p. 643, November 1959.

This study was undertaken to see if scleral rigidity measurements with the Schiøtz tonometer could be a useful clinical procedure. The elderly patients tested offered an opportunity also to ascertain if aging in itself produces increased scleral rigidity.

The original collection of data for the survey was completed in 1954 and the tonometer readings were interpreted using the 1948 Schiøtz calibration scale. Considerable difficulty was experienced in finding consistency in the scleral rigidity tests.

The present survey of scleral rigidity utilized the new 1955 Schiøtz calibration scale which brought a closer agreement in tension measurements with the 5.5 and 10.0-gm. weights. In this series, most patients showed fairly close agreement in two-weight tensions on initial testing. However, marked variations in readings were noted when frequent measurements with the Schiøtz tonometer were done on different days on the group of possible and potential glaucoma cases.

The real value of the test for scleral rigidity for the authors was the increased emphasis on the necessity of taking repeated readings of intraocular pressures in suspicious cases. Repeated tonometry plus more detailed testing on suspected cases increased the incidence of the positive diagnosis of primary glaucoma from 5.0 to 9.6 per cent in the series of 770 patients ranging in age from 62 to 98 years.

Age does not appear to produce an appreciable increase in scleral rigidity. The higher percentage of glaucoma in the second series of cases is undoubtedly due to the repeated measurements of intraocular pressure supplemented by tonographic information.

Ocular Rigidity. V. Goodside. *A.M.A. Archives of Ophthalmology.* Vol. 62, p. 839. November 1959.

Ocular rigidity was measured in 560 routine office patients using Friedenwald's tonometric method of paired weights in conjunction with his 1955 tables. The study attempts to arrive at a relationship between intraocular pressure and ocular rigidity. The influence of the following factors is considered: age, state of refraction, depth of anterior chamber, estimated intraocular pressure by finger palpation, and surgical aphakia.

The coefficient of ocular rigidity seemed to increase after age 20 and was significantly higher in the hyperope than in the myope in the 5 to 20 and 60-plus age groups. Similarly, the coefficient was higher in eyes with shallow anterior chambers than in those with deep ones.

Finger palpation as a method of determining intraocular pressure is inaccurate. Ocular rigidity had no relation to the impression one gained from finger palpation.

Cataract extraction produced no change in ocular rigidity.

The coefficient of ocular rigidity varied inversely with intraocular pressure in a large group of cases. The coefficient would therefore appear to be a function of intraocular pressure.

Glaucoma. S. Lerman. *Scientific American.* Vol. 201, p. 110, August 1959.

In this article both the layman and the physician are alerted to the symptoms and countermeasures of glaucoma, a major cause of blindness. A detailed description is given of the anatomical and physiological changes the glaucomatous eye undergoes. A wider public understanding of the disease is advocated by the author in order to achieve a marked reduction in blindness. He predicts that the number of blind will decline in the next two decades on the basis of progress that has been made in diagnosing and treating the disease during the last two decades.

Many victims unfortunately remain unaware that they have the disease until it actually impairs their vision by destroying the optic nerve fibers. Therefore, it is important that it be detected in its earliest stages.

From the standpoint of public health the major problem is the chronic form of glaucoma in the aging adult. The obvious solution is to encourage individuals over 40 years to seek a proper eye examination by a qualified ophthalmologist at yearly intervals. This will bring to light any hitherto undetected and early cases which, with treatment, can be arrested before there is great visual loss.

Primary Glaucoma: Open Angle Type. An Experimental Investigation on New Therapeutic Approach on the Treatment of Simple Chronic Glaucoma. J. Landesberg. *American Journal of Ophthalmology*, Vol. 48, p. 81. July 1959.

This investigation was made by iontophoresis of the effects of hyaluronidase on primary glaucoma, open-angle type. It was assumed that the material clogging the meshwork of the trabeculae or collecting in the channels is hyaluronic acid. If a sufficient quantity of this could be removed, it would increase the facility of the aqueous outflow. Hyaluronidase has been used as a spreading factor in other conditions, especially in hypodermoclysis.

In the past four years 12,000 patients have been examined in the eye clinic of the Brooklyn Out-patient Clinic of the Veterans Administration. Among 3,062 examined in the past year an intraocular pressure of 20 mm. Hg (Schiøtz 1955) or over was found in 706, of whom 156 were diagnosed as having primary glaucoma.

At the beginning of this investigation patients were chosen with a vision of 20/200 or less and an intraocular pressure of 30 to 40 mm. Hg. Most showed definite glaucomatous cupping.

With a plastic eye cup the hyaluronidase was introduced by iontophoresis. The eye electrode is similar to one used in retinography. During the one minute application of one milliampere of galvanic current, bubbles (perhaps of gas) formed in the solution near the cathode were noticed. After the cup was removed the cornea was examined by slitlamp microscopy and showed some haziness, filamentary epithelial strands, and staining with fluorescein. An antiseptic ointment was instilled and the eye was patched.

When the patch was removed 24 hours later, the cornea had regained its luster; there were no signs of any filamentary changes, and the cornea

did not stain with fluorescein. The eye showed no inflammatory changes.

The action of the hyaluronidase in vivo is purely local and is confined to the intercellular ground substance with which it comes in contact. No systemic effects or side reactions attend its use.

Iontophoresis is an effective method of introducing hyaluronidase into the anterior chamber aqueous; a reduction of intraocular pressure takes place within 24 hours after this treatment. Further investigations are required.

On Factors Influencing the Intraocular Pressure. F. W. Stocker. *The Eye, Ear, Nose and Throat Monthly,* Vol. 38, p. 633. August 1959.

Since understanding of the causes of glaucoma may be oversimplified by adherence to either the anatomical or neurovascular school of thought, it is useful to call attention to the complexity of the problem.

Maintenance of fairly equal intraocular pressure clearly must be due to the balance of inflow and outflow of fluid into and from the somewhat elastic capsule of the eyeball as constituted by sclera and cornea. This involves coordination of the amount of aqueous produced and the facility of the outflow. The author's observation of changes in the intraocular pressure after application of a tonometer leads him to assume that this coordination works on the principle of a rebound system.

The author discusses various known factors which influence intraocular pressure: the central and peripheral nervous system; the endocrine and cardiovascular systems; blood composition, osmotic pressure of the serum and production of aqueous humor; anatomical conditions at birth, and changes occurring during life.

The whole complex mechanism which keeps intraocular pressure at a physiologic level is not yet understood. It is possible however to determine in some instances some factors in the whole system that are out of balance. By readjusting these it may be possible to reestablish balance.

Effect of 2% Levo-Rotary Epinephrine on the Intraocular Pressure of the Glaucomatous Eye. L. L. Garner, W. W. Johnstone, E. J. Ballintine and M. E. Carroll. *A.M.A. Archives of Ophthalmology,* Vol. 62, p. 230. August 1959.

Epinephrine, known in glaucoma treatment since the beginning of the century, fell into disrepute for a while as a result of indiscriminate use. This was due largely to a lack of knowledge of what is now known as the open- and closed-angle types of glaucoma. Recent investigations of the sympathomimetic amines have again produced evidence of the tension-lowering qualities of levo-epinephrine, demonstrating the drug's value in decreasing the rate of aqueous formation rather than in increasing the coefficient of out-flow.

In the present study it was found that levo-epinephrine 2% is valuable in treating several forms of open-angle glaucoma. While in some instances normalization of tension can be attained by the use of this preparation alone, its best results will be seen in combined therapy with miotic and/or a carbonic anhydrase inhibitor. Levo-epinephrine has specific advantages in the treatment of open-angle glau-

coma, since it rarely produces intolerance in almost three years of observation. Gonioscopy is advised on all patients before the use of 2% levoepinephrine in order to avoid an angle-block incident. In the elderly patient or one with a shallow-angle entrance and an open-angle glaucoma, gonioscopy should be repeated at four-month intervals, since this type can convert to a narrow-angle mechanism.

Ocular Surgery in the Aged. M. Feldstein, A. L. Kornzweig and J. Schneider. *The Journal of the American Medical Association*. Vol. 170, p. 1621, August 1, 1959.

The beneficial results of surgery were weighed against the risks in a review of 118 major eye operations on a series of patients from 65 to 94 years of age. Eighty-five operations were for cataract, 18 for glaucoma, four for retinal detachment, and the balance represented a small number of different procedures.

The general health problems of the patient as well as his age were factors in considering the practicability of ocular surgery. The most frequent complicating factor was hypertension. Many of the patients had coronary sclerosis with severe insufficiency; others severe diabetes. These and a variety of other medical disturbances were considered deterrants, not absolute contraindications. Psychosis was the most important contraindication, particularly when it made the patient unmanageable. A patient's lack of desire for surgery, despite materially decreased vision, was another serious contraindication. Each case was a calculated risk; the patient's own desire for vision was often a deciding factor.

There were few post-operative complications, especially in view of the patients' ages. Considering that 62 of 118 patients suffered from hypertension, the incidence of hemorrhage and other relevant complicating factors was extremely low. The patients recovered well from most complications, including post-operative psychoses. This problem is greatly reduced by the current method of covering only one eye after the operation.

The general conclusion was that a too conservative attitude leads to withholding beneficial procedures. Seventy-one of the patients who had cataract surgery regained a vision of 15/70 or better. Sixteen of the glaucoma cases were controlled with, and in some cases without, medication. In considering the operative treatment of ocular disorders, the determining factor is the functional status of the person rather than the age.

Cataract Surgery; Operative Technique. L. A. Breffeilh. *Journal of the Louisiana State Medical Society*. Vol. 111, p. 437, November 1959.

A technique developed by the author for performing cataract surgery without trained assistants and with limited facilities is described, including details of preoperative preparation, and post-operative care. The advantages of this procedure are discussed: Preplaced sutures are easily released if it becomes necessary to close the eyelids during surgery or to release the tension on the superior rectus muscle. Especially important is the immediate closure after the lens is extracted. Chromic catgut sutures used do not have to be removed as do silk sutures. The conjunctival limbal base flap lessens the dangers of epithelial down

growth and converts a prolapsed iris into an iridotasis, and complications which necessitate further surgery are avoided.

This surgical technique has been used for the past four years on 191 cataract extractions with only three patients requiring further surgery.

Optimum Wound Closure in Cataract Surgery. D. M. Taylor. *American Journal of Ophthalmology*. Vol. 48, p. 660. November 1959.

An analysis is made to determine the ideal number of sutures to be used in cataract wound closure. The concept varies from surgeon to surgeon. The author's own experience caused him to question the use of two or three sutures. They had often proved inadequate as revealed by a high incidence of flat chambers, small iris incarcerations, hyphemas, and the magnitude of the final astigmatic correction.

In order to analyze the reduction of early postoperative complications and assess the improvement of final anatomic result when five corneal scleral sutures are used, two series of cataract extractions were selected. The first represented the last 50 cases in which the author used two sutures; the second represented the first 50 cases in which five sutures were used.

In sharp contrast to the many early complications with two sutures the incidence of complications in 50 consecutive cases with five sutures dropped practically to zero in all categories. There was also a striking reduction in the final degree of astigmatism. The author believes these satisfying results conclusively demonstrate the marked superiority of a multiple suture closure and that five radial appositional corneal-scleral sutures will eventually become accepted as the minimum number for adequate wound closure in cataract surgery. This concept is not new for many ophthalmologists, but the routine use of multiple sutures has not gained wide acceptance.

Inheritance of Retinoblastoma in Ohio. M. T. Macklin. *A.M.A. Archives of Ophthalmology*. Vol. 62, p. 842. November 1959.

This study was made on the population of Ohio over a period of 17 years. Intensive investigation into family history revealed collateral lines affected in 10.5 per cent of what had been regarded as sporadic cases.

The frequency with which retinoblastoma affects children of both sexes, and the fact that there is as high a percentage of it among children whose parents had no blood ties as among those of consanguineous parents, supports the interpretation of a dominant gene with incomplete penetrance.

A relatively rare disease, it was found to occur approximately once in every 23,287 persons who had lived past the age of one year. The mutation rate was 1.76×10^{-5}.

The question of the risk of producing affected offspring is discussed in relation to the three groups of persons who know that a risk exists: hereditary cases surviving to maturity; normal parents with no history of the disease in their families who have produced one affected child; and sporadic cases who have grown to maturity.

The Antibacterial Property of Vitreous. H. Reed and G. Tushingham. *A.M.A. Archives of Ophthalmology*, Vol. 62, p. 780. November 1959.

A propensity of the human vitreous to inhibit bacterial growth has been

demonstrated by several investigations. It was first shown that if it is infected with organisms and stored at 4 C it tends to become sterile.

Subsequently it was demonstrated that there is a diffusible antibacterial substance in human vitreous which will produce a zone of inhibited growth around pools of vitreous on blood agar plates growing Staphylococcus pyogenes var. aureus, Koch-Weeks bacillus, Proteus vulgaris, and Pseudomonas aeruginosa.

The authors conducted experiments which confirm previous findings, and further suggest that this antibacterial substance is absent in isotonic saline, cerebrospinal fluid, dog vitreous, and human serum.

The fact that the inhibitory substance in human vitreous inhibits Micrococcus lysodeikticus suggests that it could be lysozyme.

Diabetic Retinopathy and the Pituitary. E. J. Ranke. *A.M.A. Archives of Ophthalmology*, Vol. 62, p. 859. November 1959.

The causative factors producing diabetic retinopathy or accounting for its progression are unknown. Other than the time required for the development of the disease, the only factor seemingly related to its incidence and severity is the degree of control of diabetes. It is generally agreed that the pituitary adrenocorticotrophic and growth hormones exert a diabetogenic action. However, the evidence that the adrenocorticotrophic hormone, cortisone, or its derivatives can produce diabetic retinopathy in humans is not convincing.

In this study diabetic retinopathy did not occur as a frequent complication in 66 patients having pituitary tumors. Diabetes mellitus occurring as a complication or appearing after the clinical onset of the pituitary tumor did not alter this infrequent incidence of retinopathy.

Thirty patients of the 66 had coexisting diabetes. The time that diabetes became manifest was quite variable with respect to the duration of the pituitary tumor. The majority of patients develop it within the first six years after onset of the tumor. The longer the duration of the tumor, the greater the incidence of diabetes.

Two patients had diabetic retinopathy in the entire group of 66 patients. Of the 30 who had coexisting diabetes, the two represented 6.7 per cent. However, the incidence of the disease was strikingly greater (26.6 per cent) in a similar group of 30 diabetic patients without pituitary tumor.

It is unlikely that the pituitary directly contributes to the development of diabetic retinopathy because of the low incidence of retinopathy in patients with pituitary tumor and diabetes.

Congenital Toxoplasmosis. III. Ocular Signs of the Disease in State Schools for the Blind. J. R. Fair. *American Journal of Ophthalmology*. Vol. 48, p. 165. August 1959.

This investigation of congenital toxoplasmosis is part of an over-all plan aimed at establishing the incidence of the disease and attempts to show that it is a common cause for admission to state schools for the blind.

A survey of 467 students conducted in three of these schools revealed 26 cases of chorioretinitis. These cases were separated for more complete study which included: detailed funduscopic examination, dye test for toxo-

plasmosis, skull x-ray studies for intracerebral calcifications, and a brief medical history obtained from each mother.

Of the 26 found to have chorioretinitis, 22 gave positive skin tests for toxoplasmosis. Twenty mothers were available for serologic study. Fifteen students with positive skin and dye tests had mothers with positive dye tests, suggesting congenital toxoplasmosis as the cause of the chorioretinitis in these cases. Three children with chorioretinitis gave negative skin and dye tests as did their mothers, indicating that some infectious agent other than Toxoplasma may cause congenital chorioretinitis. In two cases dye tests were negative in the mother of a child with positive skin and dye test for toxoplasmosis, suggesting that the positive tests were the result of toxoplasmosis acquired incidentally.

If it can be shown by studies of this kind that congenital toxoplasmosis is responsible for a significant amount of visual disability and mental retardation, perhaps it will be worth while to investigate the possibility of immunizing previously uninfected pregnant women in an attempt to prevent the congenital infection.

It is suggested that congenital toxoplasmosis is a public health problem worthy of real concern. Further studies are proposed with the idea of establishing the incidence of the disease.

Dexamethasone in Ophthalmology. D. M. Gordon. *American Journal of Ophthalmology.* Vol. 48, p. 656. November 1959.

Sixty-seven patients with various inflammatory intraocular conditions were treated with dexamethasone. Preliminary observations indicated that the synthesis of dexamethasone constitutes a definite advance in the field of corticosteroid-responsive ocular conditions.

The steroid is said to have approximately six times the potency of prednisone or prednisolone, and 30 times that of cortisone. Relatively high initial dosages were given to the 67 patients. Then the dosages were adjusted according to individual requirements. Certain of the undesirable side-effects seen with the earlier corticosteroids seem to be greatly decreased in incidence with dexamethasone. The only ones observed were edema in varying degrees and four cases of acne. Two patients complained of bloating.

Dexamethasone proved to be effective in the majority of cases. While it is not the ultimate adrenocortical steroid, it represents a major step in ocular anti-inflammatory therapy.

Treatment of Certain Neuro-Ophthalmic Disorders. T. R. Hedges, Jr. *Survey of Ophthalmology.* Vol. 4, p. 601. October 1959.

Thirty to 50 per cent of all cases of optic neuritis have no known cause at the time they are discovered. Excluding diabetes or known toxic causes, the therapy of optic neuritis leaves much to be desired. Potassium iodide, sinus surgery, vitamins, foreign protein, histamine, nicotinic acid and isonicotinic acid have been tried with no notable success. Current treatment centers about the use of steroids which appear to cause rapid regression of the inflammatory process as evidenced by improved vision and regression of field defects. Several reports are quoted, however, to show that steroid therapy is far from a specific one for this condition. A rational attitude toward cur-

rent methods of treatment should be developed. Caution should be observed regarding a specific diagnosis of optic neuritis, since any case resembling the disease can always be a brain tumor.

Since myasthenia gravis is a generalized neurologic disorder its treatment rightfully belongs in the hands of the neurologist. The ophthalmologist's function here is primarily in the province of diagnosis of its protean ocular manifestations.

Several forms of treatment of syphilitic primary optic atrophy are available today. Many interesting reports continue to appear regarding successes and failures, particularly with the case of penicillin.

Treating the toxic amblyopias mainly depends upon discovery either by history or pertinent findings that the cause of visual loss is first of all on a toxic basis, what the noxious agent is, and hence its removal from the environment.

Ophthalmologists play a prominent role in establishing a correct diagnosis in cases of headache. Considered to be of primary importance are migraine, atypical and trigeminal neuralgia, herpes zoster, and temporal arteritis.

The ideal time to treat intracranial aneurysm is when the diagnosis is established by the ocular signs of ptosis and pain, and before the patient has had any intracranial bleeding of consequence.

Progress in Sub-Normal Vision Aids. M. C. Waddell. *Virginia Medical Monthly*, Vol. 86, p. 595. October 1959.

The experience of the subnormal vision clinic operated by the Virginia Commission for the Visually Handicapped over an 18-month period is summarized.

In this series there were 223 patients ranging in age from under 10 years to over 60. The largest number were between age 11 and 25. The most frequent diagnoses encountered were optic atrophy, central choroiditis, macular degeneration, post-operative congenital cataracts and aphakia.

The best lenses proved to be the aspheric type. A surprisingly high percentage of cases could be helped by a regular correction. Some patients had not had a good refraction for many years; others never. Microscopic lenses, hand magnifiers, double lens magnifiers, telescopic and contact lenses also were prescribed.

It is impossible to tell from the diagnosis whether an individual patient can be helped. The work is a combination of trial and error, patience and perseverance. As a rule those with a considerable reduction in their peripheral fields did not do well with low vision aids. Statistically the best results were obtained with the patients who had optic atrophy, macular degeneration and choroiditis; the poorest results with those who had glaucoma and retinitis pigmentosa, among other diseases.

Those who had a visual acuity of 20/200 or better for distance were helped most. Approximately 50 per cent of patients seen at this clinic are being fitted with a suitable correction, but the degree of success cannot be determined without further study.

ANNUAL CONFERENCE NUMBER

The next issue of *Sight-Saving Review* will feature the proceedings of the NSPB Annual Conference, held in Denver, March 30–April 1.

BOOKS AND PAMPHLETS

Physiology of the Eye: Clinical Application. Third Edition. Francis Heed Adler, M.D. C. V. Mosby Co., St. Louis. 1959. 790 p. $16.00.

In his foreword to the new edition of this standard text the author refers to the volume of research in ocular physiology that has been done in the last decade as a mixed blessing. The changes have been rapid and there is no certainty that any hypothesis based on the new facts will long survive.

In an endeavor to make a judicious selection of available material Dr. Adler has rewritten most of the chapters but has retained the plan and purpose of the first edition. Of particular importance are the revisions of the sections on aqueous humor and intraocular pressure, the ocular muscles, and the recent work on electromyography. Advances in eye physiology found in clinical journals and those of the basic sciences not readily available to many ophthalmologists have been included.

The value of this comprehensive work on the function of the various parts of the eye has long been established. In its revised form it will continue to aid the practicing ophthalmologist and the student.

Ocular Vertical Deviations and Treatment of Nystagmus. Second Edition. J. Ringland Anderson, M.D. J. B. Lippincott Co., Philadelphia. 1959. 189 p. $8.50.

This contribution to the study of vertical defects in the position of the eyes includes a partial survey of the literature and an analysis of a series of some 600 patients with horizontal and vertical defects of the concomitant and paralytic types. Methods of investigation are discussed in full. A supplementary chapter on the value of surgery in the treatment of various forms of nystagmus has been added.

In a foreword to the text Sir Stewart Duke-Elder points out that the clinical analysis of these cases is a complex matter and the possibilities of relief by orthoptic exercises or surgery can only be undertaken by a physician of long experience in this field. Each case has an individuality of its own; standardized methods of therapy may not apply, and the prognosis is rarely predictable. Dr. Anderson's long experience, his careful study of many clinical cases, and his wisdom fully qualify him for the preparation of this practical guidebook. He is consulting ophthalmic surgeon at Alfred Hospital, Melbourne, and consultant ophthalmologist to the Australian Government Public Services, Navy and Air Force.

The text is well illustrated and includes an extensive bibliography.

Transactions of the American Ophthalmological Society. 95th Annual Meeting, 1959. University of Toronto Press. 1960. 746 p. $18.00.

The 95th Annual Meeting of the American Ophthalmological Society was held in Hot Springs, Virginia, May 28–30, 1959. This volume includes the minutes of the proceedings, the 24 papers presented, and seven theses submitted by candidates for membership in the Society, and accepted by the committee on theses.

Several of these important discus-

sions of advances in the field of ophthalmology will be abstracted for *Sight-Saving Review.*

Roentgenologic Diagnosis in Ophthalmology. Edward Hartmann, M.D. and Evelyn Gilles, M.D. J. B. Lippincott Co., Philadelphia. Translated by George Z. Carter, M.D. Edited by Conrad Berens, M.D. 1959. 375 p. $15.00.

This text is designed to make available to the English-speaking ophthalmologist advances in the field of roentgenology, and to the roentgenologist the apparatus and techniques most important to the ophthalmologist. Old procedures are examined and newer methods are introduced.

Arranged regionally, the content relates to all areas important in ophthalmologic diagnosis and gives roentgenological techniques most appropriate to each area covered. Relevant considerations in the areas of neurology and cerebral pathology are discussed.

The text is supported by numerous roentgenograms, photographs, drawings and charts, and an extensive bibliography is included.

Dr. Hartmann is chief of the ophthalmic department, Lariboisière Hospital and American Hospital, Paris; Dr. Gilles is chief of the roentgenology department, Quinze-Vingt Ophthalmic Hospital, and associate in roentgenology, San Antoine Hospital and American Hospital, Paris.

The Year Book of Ophthalmology, 1959-1960. William F. Hughes, M.D., Editor. The Year Book Publishers, Chicago. 1960. 406 p. $8.00.

With the conclusion of the 1958–1959 volume Dr. Derrick Vail relinquished editorship of the *Year Book* and has been succeeded by Dr. William F. Hughes, chairman of the department of ophthalmology, Presbyterian-St. Luke's Hospital, Chicago and clinical professor of ophthalmology, U. of Illinois College of Medicine.

In keeping with past editions, abstracts of articles dealing with the most significant advances in the field of ophthalmology are included, with comments by the editor. Featured is a long special article by Alex C. Krill on clinical electroretinography. A relatively new technique, it is based on the recording of the action potentials produced in the retina by an adequate light stimulus.

The XV Jackson memorial lecture by Dr. Arthur Linksz on aniseikonia, with notes on the Jackson-Lancaster controversy, is cited as being replete with clinical illustrations and suggestions for the management of patients with unusual phorias or size-differences who "simply cannot wear their glasses." The lecture, delivered at the AAOO's 63rd annual session in October 1958, appears in the October 1959 issue of the *American Journal of Ophthalmology.*

Dr. Hughes calls "exciting" an article by Payrau, Bonel and Guyard featured in the September 1958 *Annales d' Oculistique* which discusses the successful lamellar transplantation of lyophilized dog corneas to humans in 4 of 7 cases.

The editor has included seven articles which comprise a symposium on Ocular Effects of Ionizing Radiation and Radiotherapy held during the 1959 meeting of the AAOO. They are intended to make the practicing ophthalmologist aware of the general principles and terminology of radiotherapy, its biologic action, indications and hazards.

The Treatment and Prevention of Reading Problems. Carl H. Delacato, Ed.D. Charles C Thomas, Springfield, Ill. 1959. 122 p. $4.50.

The author, who has worked with the reading problem as teacher, school administrator, diagnostician and psychologist, presents a neuropsychological approach to the treatment and prevention of reading retardation. His extensive analysis of the differences between good readers and poor readers and of the various remedial systems has led him to the conclusion that neurological development and coordination of the human organism is the key to the problem.

He discusses such factors as sleep patterns, tonality, handedness, footedness, visual control, musical ability, and dominance, relating them to a number of case histories.

A chapter on vision in reading is mainly a reprint of an article on "Relation of Ocular Dominance, Handedness and the Controlling Eye in Binocular Vision" by George E. Berner, M.D. and Dorothy E. Berner, B.S. that appeared in the *AMA Archives of Ophthalmology* of November 1953. Dr. Delacato feels that the evidence presented by the Berners is corroborative at a visual level towards a neurological rationale for resolving reading problems.

Essentials of Healthier Living. Justus J. Schifferes, Ph.D. John Wiley & Sons, Inc. New York. 1960. 335 p. $5.50.

This revision of the author's 1954 text, *Healthier Living*, is designed to give clearer shape and sharper definition to the content of college health education than its predecessor. The outline of this book was developed and revised in direct response to the findings of a nationwide survey in which 250 college instructors discussed what they wanted in a new college text in personal and community health. It incorporates, in addition, recommendations made at recent national conferences on college health education.

Dr. Schifferes divides his subject matter into five major areas of modern health education: personal health, education for family living, mental health, health hazards, and community health. The material is brought up to date to reflect the most significant medical and social research findings of the 1950's: physical fitness and physical education, space medicine, radiation hazards, daily living habits, smoking, weight control, tranquilizers and other psychic drugs. A chapter on improving personal appearance includes some brief suggestions on eye care and first aid for eye injuries.

Among the new materials are teaching aids designed to stimulate and motivate students toward mastery of the subject matter and effective classroom participation. An instructor's manual correlated with the text is available upon request.

An Inventory of Social and Economic Research in Health. Eighth Edition. Health Information Foundation, New York. 1959. 558 p.

This edition includes 841 projects, of which 322 are listed for the first time. Its purpose is to bring together in one volume current research in social and economic aspects of health being conducted by individuals and agencies in the various disciplines of the health fields and related sciences. Three sections cover studies related to health levels; to behavioral aspects of

health; and to health resources and economic aspects.

Included in part one are two projects still in progress. An eye, ear, nose and throat study is being carried out in six demonstration villages in the McGrath Itinerant Nursing Area and a control village in Alaska. Its purpose is to determine the cause and means of prevention of the high incidence of upper respiratory disease and eye, ear, nose and throat conditions in certain interior areas of the state, especially among children. The second study is being conducted in Iowa to ascertain how many and what kinds of skin and eye troubles occur in farm contexts. Local doctors and college of medicine specialists have collected data through ethnographic techniques: close study of farm life and farmer culture, supplemented by random sample personal interview survey of farm households.

The third section lists a completed study of the present relationship of voluntary health insurance to vision care. It was conducted and financed by Health Insurance Association of America in New York.

The *Inventory* is one of several Foundation projects intended to bring needed facts and new knowledge to the health field.

Screening for Glaucoma. U. S. Department of Health, Education, and Welfare, Public Health Service, Bureau of State Services. Publication No. 666. U. S. Government Printing Office, Washington 25, D. C. 1959. 24 p. 25 cents.

Methods used and findings reported in eight glaucoma detection programs are described in this booklet. All were conducted prior to 1957. The information given is intended to serve only as a report of experience in this field. Public Health Service approval of the programs is not implied.

Tested Methods of Raising Money. Margaret M. Fellows and Stella A. Koenig. Harper & Brothers, New York. 1959, 464 p. $6.95.

The techniques of successful fund raising are described by two authors who have each had more than 25 years' experience in this field. They report that over half a million nonprofit institutions in the United States rely on individuals and organizations to support their work.

The text covers such important points as how to get attention for an appeal, winning the support of foundations, the cultivation of bequests and the most successful approach to the individual donor.

Practical advice is given on mailing lists, reproduction of letters, and many other items.

REGISTRY FOR OPHTHALMOLOGISTS AND OTOLARYNGOLOGISTS

An Employment Registry for Scientists has been established by the American Academy of Ophthalmology and Otolaryngology. Its purpose is "to facilitate the growth of academic ophthalmology and otolaryngology in both clinical and basic science areas in the various medical schools and associated hospitals and institutions across the country."

The registry will serve to aid in the placement of candidates completing training who desire academic and investigative positions, and it will also facilitate the replacement of those already in such positions who desire to change. The registry will be operated by the academy without fee or obligation. For information, write William L. Benedict, M.D., secretary-treasurer, 15 Second Street, S.W., Rochester, Minnesota.

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THE SIGHT-SAVING REVIEW

Volume XXX Number 2

Summer, 1960

Table of Contents

PAGE

ANNUAL CONFERENCE IN DENVER 67

ADVANCES IN CATARACT SURGERY
Frank W. Newell, M.D. 69

RESEARCH IN OCULAR EFFECTS OF RADIATION
Colonel R. S. Fixott, USAF, MC 74

ADVANTAGES OF THE OPTICAL AIDS CLINIC
Benjamin Milder, M.D. 78

STRABISMIC AMBLYOPIA
Gunter K. Von Noorden, M.D. 85

GLAUCOMA DETECTION AMONG RELATIVES OF GLAUCOMA PATIENTS
Helen Curtis Demary, M.S. 89

A REAPPRAISAL OF VISUAL PROBLEMS IN PREMATURES—A PROGRESS REPORT
Ivan E. Hix, Jr., M.D. 94

REVITALIZING AND EXPANDING SERVICES FOR THE PARTIALLY SEEING
Merle B. Karnes 97

EYE SAFETY EDUCATION IN THE MASSILLON PUBLIC SCHOOLS
L. J. Smith 101

NAMED TEACHER OF THE YEAR FOR THE PARTIALLY SEEING—
FLORENCE DONERMEYER 104

NOTES AND COMMENT 107

AROUND THE WORLD 112

CURRENT ARTICLES 114

BOOKS AND PAMPHLETS 126

ADVERTISEMENTS

EXCERPTA MEDICA 65

KEYSTONE VIEW COMPANY 106

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